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EDITORIAL.

THE MEDICAL DEPARTMENT OF THE UNITED STATES ARMY.

Although the provision of an adequate medical department for our army has been urged by journals, frequently, during the past two years and, although the present Congress is, apparently, to follow the example of its three predecessors and adjourn without taking any action looking to the betterment of the existing deplorable conditions, the question is one of such importance to the whole country, and to the medical profession especially, that we are moved to bring it up again "lest we forget."

Prior to 1898 the regular army of the United States was, to most of us, a vague, indefinite thing which existed, certainly, but which we thought could never concern us very nearly and of whose personnel and workings we were entirely ignorant. The Spanish war, while small in itself, was vast in its results and one of those results was to give the people at large a better knowledge of the army and a more personal interest in it. With the efficiencies and deficiencies of an army, in which every family had at least an acquaintance, if not a relative, being exploited in the papers constantly; with the publication daily of ever-increasing lists of sick, we learned that everyone of us did have a very deep interest in the army, and especially in its medical department. And many of us condemned unhesitatingly that medical department, not realizing that the preservation of the health of soldiers in the field requires, like every other science, a special training and that the failure of our camps, from a medical standpoint, was due entirely to an inadequate number of trained medical officers.

Since that war we have learned that the fault was with the system and not with the men, and there is not a medical man in the United States to-day but should look with pride on the work accomplished by the army medical corps in the past nine years. The discovery by that corps of the part played by the stegomyia in the transmission of yellow fever is, in its benefits to mankind, on a par with Jenner's discovery of vaccination. And it is only through the efforts of the medical depart-

ment of the army to-day that the building of the Panama canal, that great undertaking which will be of incalculable benefit, not only to the United States but the world at large, is rendered possible.

In spite of the good work of the medical department in times of peace, however, and with the memory, still fresh, of the disasters which, owing to an inadequate organization, befell it during the war, Congress has not only refused to recognize its deficiencies and encourage its good work by giving it a proper organization but has actually placed it in a worse position than it was before the war.

Before the reorganization in 1901, the regular army of the United States consisted of 25,000 men, with a medical corps of 191. Under the reorganization act the army was increased to 100,000 men and the medical corps to 320. In other words, while the army was increased 400 per cent., the medical department was increased only 60 per cent. The result of this of course was that while the number of men in the medical corps was actually increased, the percentage of medical officers to the army as a whole was decidedly decreased, being reduced from .65 to .32 of the authorized strength. Admitting then that the breakdown of the medical department was due to an insufficient number of trained men, the chances of such another breakdown were, by the provisions of this reorganization, just doubled instead of being obviated as they should have been.

In this way a great injustice was done the medical corps but a more blighting injury still was inflicted on it by the manner in which this increase was made. Of the 129 men provided for in the increase, 115 were put in at the lowest grade, thus not only reducing the proportion of medical officers to the army but also greatly reducing the chance of promotion in the corps itself.

It is readily seen that in order to have a steady flow of promotion at such rate as will offer inducements to enter the service, the proportion between the lower and higher grades must be a just one. Promotion in the army presents exactly the same problem as is presented by a crowd of people trying to pass through a gate. If, now, the size of the crowd is suddenly increased and no corresponding increase is made in the size of the gate, it must follow that stagnation will result, and a much longer time be required for the people to pass through. This is the state of affairs in the medical department of the army to-day. The lower grades were markedly increased and the upper grades relatively decreased so that, while formerly it took an officer 18 years to reach the grade of Major and Surgeon, under the present law it will take an average of 28 years, with the chances all in favor of the officer being retired for old age before gaining further promotion.

In former years a position in the medical corps was much sought,

and candidates of a high class were always available. But since the conditions imposed by the reorganization have become known in the various medical centers, the number of applicants has fallen off so that in spite of strenuous efforts and the making of many concessions in regard to literary education, age limit, vision, etc., the department has been unable to secure enough men to fill its ranks. And furthermore, since 1903 there have been seventeen resignations as against one in the three years preceding.

Under existing laws, the inducements offered are not enough to attract ambitious young men of proper medical training, and the medical department of the army is closed as a career to them. To properly prepare himself for the practice of medicine to-day a young man spends more in money, time and labor than ever before and he has a right to expect a reasonable return for his outlay. Medical education like everything else, can not be bought below the market rate. The Government, therefore, in order to get men for its service must either increase its bid or lower the standards of admission and accept an inferior quality. That the latter should be done is unthinkable. It has always been a point of pride with the American people that their soldiers should receive the best of everything and in so important a matter as medical attendance they ought not to tolerate any inferiority.

An adequate medical organization, therefore, is not a question that concerns the army alone, but is one which affects the whole country, and especially the medical profession. We, as medical men, should be particularly zealous in seeing that our representatives in the army are representatives in fact, representing the best in our profession, and we should resent vigorously any effort to cheapen or belittle our profession through its army representatives.

It was a realization that the medical profession as a whole had a vital interest in this matter that led the Surgeon General, in 1904, to consult the profession of the country before presenting to Congress the admirable bill now pending, and whose passage we should endeavor to aid in every way. Through Doctor C. L. Reed, of Cincinnati, Chairman of the Committee on Legislation of the American Medical Association, drafts of several bills were sent to every county medical society and expressions of opinion asked. The bill as finally given to Congress is the one approved by these societies and may be said, therefore, to have the endorsement of the entire profession.

Our efforts should not stop with endorsement, however. It should be an object with each and every one of us to see that this bill, righting an injury and affording recognition of one of the highest professions, beside opening up an attractive career to recent graduates, should be passed. And if the profession makes an earnest effort to bring about

this result, it will be easy of accomplishment. Let each of us do something, therefore, either by letter or personally, to urge our Congressional representatives to action favorable to the passage of A Bill to Increase the Efficiency of the Medical Department of the Army.

THE SURGICAL SHOP.

The tolerance of another's fame indicates an attitude that is informed with appreciation and makes for much in a world where constant bickering seems to be the dominant note of much discordant music. But tolerance can go too far, and when it does, the mental weakness of the adulator and the vaporings and cant of the idol destroy the sincerity of the former and make the latter appear a striding, strutting something whose mental jewels are paste. Carlyle has written much against heroes and hero-worshippers but such is the world that diatribes appear useless when the glamour of any sort of fame is indiscriminately judged by easily-impressed and easily-influenced critics.

The Surgical Shop is about the most modern manifestation of a certain phase in our very modern society. It has all the elements that have an especial appeal to the people. Argal, since we are a democratic people, why discredit an institution buoyed up by the voice of the people, or show displeasure because popular sentiment is founded on the idle talk of an idle hour? The answer to this as formulated by us would be that though we recognize the futility of our protest, even a small, weak voice might be the nucleus of larger vibrant tones, which later on would attract some attention to a charlatanry that as yet has not become manifest to everybody.

The Surgical Shop has as many patients as there are leaves in Vallombrosa. The system obtaining is on similar lines with our wholesale houses. In fact, Mr. Gradgrind, in Dickens' "Hard Times," was a mere amateur in comparison. The surgical Master-mechanic sees his patient only when he operates. Dispatch is his watchword, for many "leaves" are falling or about to fall. His personal responsibility, if there is any responsibility in so well-conducted a house, ends when the patient is carried from the operating room. Others watch for unfavorable symptoms, for the Master-mechanic is too much engaged with operations. This is the system, and as such merits consideration.

A house, whose housekeeping wheels are always greased, is an admirable house. It moves on without a hitch, its composure is praiseworthy, its content cannot be questioned. But like all systems it has some faults, and from our biased point of view, these are glaring. Were they

the defects in a house devoted exclusively to commerce, they would be of such minor importance that criticism would sound like supererogation. But they are ugly spots which should be foreign to a clean picture of surgical methods.

Surgery is the highest expression of the art of medicine; it is implicit with the best that the inventive and intellectual mind of the age can produce. It stands supreme and the purity of its purpose, the gravity of its mission, the weight of its decisions should be unmixed with the grosser elements of commerce. So soon as it will be a "business," it will be compelled to abdicate and pass into an abysm of discredit where it will sink deeper and deeper in its own mire. We are not blind to the fact that occasionally one or another surgeon has attempted and partly succeeded in prostituting the art of surgery by methods reprehensible on account of their cupidity, and although this has given us cause for an exhibition of wrath, our tempers have, after a time, quieted down for the reason that the offenders were generally men of no prominence, and the unholy light with which they tried to dazzle us, flickered, and soon died out. But the Surgical Shop is not an institution that shows any signs of a sickly growth with good intentions of an early demise; like unto the Upas it flourishes to poison the surrounding atmosphere. Moreover, it is so flamboyantly proud of its own prostitution that a fillip or two would not avail. Therefore wrath would be too mild a visitation; a Berserker fury would be more to the purpose.

We are not a nation of thinkers, unfortunately; in fact, we are easily dazzled by the meretricious. An English historian, some sixty years ago, said: "I hear there are some ten million people in the United States, mostly fools." This seems like harsh criticism but the enthusiasm of the addle-pated admirers of the Surgical Shop, who to-day see in quantity the virtues of quality, shows the applicability of the stricture. But even though we condone their purblindness because of inherent mental weakness, we cannot do as much for those at the head of the Surgical Shop for they are the Jacobs of the medical profession, masquerading in the clothes rightfully belonging to the Esaus.

PASTEUR AND THE POPULAR VOTE.

To point a criticism with disparagement may be unjust at times, but the realization of glaring defects in our social economy when the true status of a famous man is to be adjudged, prompts us to render ourselves open to the charge. Again and again, we have been reminded of the disagreeable fact of our imperfections but never more so than upon reading, in a Paris newspaper, that in reply to the question, Who are the

ten greatest Frenchmen of the nineteenth century, Pasteur received 1,300,000 votes out of 15,000,000, thus placing him at the head of the poll. Even Victor Hugo, the literary idol of the French people, was outdistanced by 100,000 votes, and as for Napoleon his name appeared fourth. And to show more markedly the ordinary Frenchman's appreciation of science and its resultant benefits, Professor Curie and Dr. Roux of the Pasteur Institute were among the ten in the list.

Now all this may look like a matter of slight importance to those outside France who form their opinions of the French nation from certain French plays and books, but to thinking men who have studied French traits, it has a deeper meaning. It shows how high an estimate is placed on the services of a great scientist by Frenchmen in general, and how keen is their appreciation when an opportunity arises. It illustrates that education must be of a very superior order in a country where a scientist can outstrip a celebrated author or a great statesman when a popular vote is asked. Finally, it is a declaration to the world that France's claim to the seat of honor in the domain of intellectuality can not be disputed. This is so evident, not only on account of France's recognition of her great sons but by contrast with our dearth of appreciation, that a contradiction would be ungracious.

Of course, the patriot among us will cry out against this decision, though his reasons for doing so may not be evident to himself, nor can they be intelligently conveyed to others. But patriotism is a most excellent attribute, for does it not narrow one's horizon and feed one's *amour propre* until the real faults of one's own country either appear as virtues, or at least so innocent that only a foolish, hypercritical individual would mention them? Nevertheless, though he of patriotic fervor attracts to hmself adherents by the thousands, the fact remains that our general education, if put to a test similar to the one to which the French people have recently submitted, would have to declare itself a very sorry affair. We make bold to say this because of the bitter truth that has been brought home to us from time to time when the question of greatness is agitated. For instance, if the query, Who are the ten greatest Americans of the nineteenth century, were put to the American people, would the result show any mention of William T. C. Morton or Charles Thomas Jackson? Would not the rare discrimination of the people give tremendous voice to the supreme importance of the millionaire who gives his money to libraries and universities, and would not the same discrimination make but a faint whisper for those men whose genius has lessened the suffering of mankind?

Despite what perverse and stubborn natures may say to the contrary, our list of great men would invite ridicule. This we do not assert to cause a gathering wrath, but with the full knowledge that of the millions

who make up our population few know enough of our heroes of science to place even an amateur's value on their services. According to the illumination that has come to us by devious ways, our public knows only too well the minutiae of the life of the plutocrat or the popular novelist. The subversive sort of education, which the masses in this country blindly believe to be the correct pabulum for mental development, is responsible for this. And they are firm in this belief because the literary trumpery that is their lot, is concocted by those "who bring down a butterfly with a blunderbuss and talk of a pin's head through a speaking trumpet."

FLETCHERISM.

Like the poor they are always with us. Years ago Sir Andrew Clark told us what to eat and what to eschew; then the Stokerites had their innings, to be followed in quick succession by the "Natural Feeders", the "Little Grangers" and the formidable army of vegetarians. Party feeling ran high, families were torn asunder, friends who had condoned small offences in each other, ran amuck of each other in the hope of convincing by the gentle arts of strident voices, hysterical behavior that argument was unnecessary when facts were so decidedly evident. The hierarchy of science was assailed by all these dietary vagaries in the hope of gaining admission but science frowned them down, one and all. And now Fletcherism is rampantly caracoling into public view with all sorts of promises, promises which are read by the unwary as if the lettering were that of a perfect panacea. Verily, the times are ripe for this. Dowieism is dead, or is there an Elisha to bear proudly the fallen Mantle of Elijah; Eddyism is somewhat frayed, and Vegetarianism has an empty sound both spiritually and gastronomically. So why not Fletcherism.

Mr. Horace Fletcher, late of Chicago, but now occupant of a beautiful Palazzo on the Grand Canal at Venice, is responsible for its advent. Some years ago he passed through the awful tragedy of being refused by a life insurance company. He was stout, short-winded and sad. To drive away the melancholy that followed the indignities heaped upon him by the life insurance company, he segregated himself and began to chew the cud of discontent. According to grave philosophers this requires both time and leisure for if hurriedly done the vapors might rise too rapidly and a quick return to the normal state result. So this latest advocate of how to eat, ate slowly, and presto! in some weeks his rotundity was less, his protervities had given way to a remarkable mental serenity, and buoyancy was the Ichor that coursed through his veins. Chewing his food eighty-seven times and allowing it to dis-

appear by a slow process of deglutition reduced him to proportions unknown since his callow days. But the quintessence of joy was only made complete when the insurance companies vied with each other to possess this regenerated man.

As an outcome of Mr. Horace Fletcher's discovery, Dr. Hubert Higgins, formerly Demonstrator of Anatomy at the University of Cambridge, England, and for many years Surgeon to the Addenbrooke Hospital, Cambridge, has written a book entitled "Humaniculture". On page 13, the author says: "Its (Humaniculture) aim would be to cultivate life, not merely for the sake of living but for the most efficient exercise and the highest development of all the human attributes," and on page 77, we read: "An attractive feature of Mr. Fletcher's claims is that the body can be trusted to choose the food it requires by taste. In other words, that the food that gives the greatest pleasure is the best that can be taken. With certain limitations which can be readily understood, this is true. A good example is afforded by the following case. There was not unfrequently an inordinate appetite for fruit-juice, as much as the juice of from twenty to thirty oranges or two or three pounds of grapes being relished. The valuable constituent of the juice was its vegetable salts; it was, therefore, assumed that the body needed them."

The intelligence of the body, as described by the author in the latter quotation, is new in the history of materialism. We pause to ask ourselves if the small socialist of tender years, who eats a quart of ice cream is not a philosopher in embryo who is obeying the scientific dictates of his body, instead of the gourmand denounced by relatives and friends. But as we understand Fletcherism the discoverer, in promulgating mastication of his food seventy times or more, is opposed to the over-indulgence Dr. Higgins would have us believe in; rather is he of the sort that approaches to St. Simeon Stylites who to assuage the pangs of hunger made on one day twelve hundred and forty-four separate and distinct bows.

Fletcherism is not old enough to show mankind its good or bad results. But being of that large class of doubters whose faith has been destroyed by other fads, we incline towards a belief in its bad effects. Should the worst happen, we hope the fame of Mr. Horace Fletcher will not be besmirched as was vegetarianism when Kinglake wrote in "Eothen": "In Smyrna a man under the influence of a bean dietary (for this is the principal food of the Greeks during their fasts) will be in an apt humor for enriching the shrine of his saint, and passing a knife through his next-door neighbor."

MEDICAL EDUCATION.

As the season approaches for the annual crop of graduates to blossom forth from our medical schools, knowing that soon the wise advice of the Commencement Address will fall on the ears of many hundreds of closely huddled, perspiring individuals, who are about to be declared *medicinae doctores,* we are compelled to a few thoughts on the true aims of medical education, and to a realization of some of the evils that beset it as an institution.

If, as Matthew Arnold says, the true aim of education in general is "to develop the powers of our mind, and give us access to vital knowledge," there can be little doubt that Doctor Lauriston E. Shaw is right in calling attention to the great evil of the "examination fetich." The knack of passing examinations is truly an attribute of mind. The tendency existing in our present system of medical education toward the development of this propensity is indisputable. The multiplicity of subjects, the short space of time allowed for the committing to memory of numerous facts and details, develop in the student the ability to cram for an examination, to unload his mind at the examination of much burdensome material, and, having done so successfully, to feel much relieved and speedily to forget. Added to these unnecessary conditions is the spirit of competition, and the fact that to the individual gaining the best results of the examination system are meted out the best opportunities for developing himself in a practical way. That is to say, hospital appointments go to the individuals who pass the best examinations, this reward capping the system and introducing into it something of misdirected energy and false conceptions.

Benson says that the task which lies before educators is not only to train the mind to be useful, but to awaken in whatever regions of the soul it may be possible—not the ethical soul, but the soul that is conscious of fine perceptions—to the realization of the necessity of original thought, and to supply to it the means of expressing this thought in words of its own. It is just this attribute of character which is so necessary to the investigator, and to the successful practitioner, which our present system of medical school teaching and competitive examinations tend to crush.

This difficulty does not admit of simple solution. We know that raising the standard of entrance-requirements has a tendency to make it more pronounced, as does also the marked increase in studies undertaken during the four years devoted to the study of medicine. These conditions tend definitely to increase the amount of cramming necessary, and also produce the mental habit of keeping one's store of facts near the surface and deluging them upon paper at the time of examination.

We cannot offer a solution, but we feel that with the endowment of

medical schools, with the abolition of the old proprietory schools, and the struggle for students which has existed between rival institutions of this character, medical teaching will become more leisurely. Medical students will have an opportunity to become truly educated according to Matthew Arnold's idea of education, that as students are taught by men who have given their lives to this branch of education, who take a particular interest in the individual student, his ability, his mental bent and his shortcomings, we will not have each year a crop of exhausted young men whose minds are a saturated solution of what seems to them to be unnecessary. We shall have in its stead fewer students graduated, but these informed with the true aim of medical education, which is, to our mind, simply the development of the ability to understand facts and to reason logically.

LITERARY NOTES.

"Alcohol. The Sanction for Its Use Scientifically Established," by Dr. J. Stark, has just been published by G. P. Putnam's Sons. Dr. Stark's treatise is a revision of the most generally accepted views concerning alcohol, attempting to prove that moderate drinking is healthful and not deleterious.

The Macmillan Company have published a third and extensively revised edition of Dr. Frederic W. Hewitt's "Anæsthetics and Their Administration." In this edition Dr. Hewitt has considerably condensed many parts of the book in order to introduce important new chapters without enlarging the work beyond the limits of a single volume.

Volume 2 of the revised edition of Allbutt's "System of Medicine" has just been published by The Macmillan Company. This work has been revised and enlarged and retains all the features that made the first edition so valuable. Authorities are generally agreed that it is the most important work of its kind in existence.

Mr. Clarence F. Birdseye's forthcoming book on "Individual Training in Our Colleges," will be an important contribution to educational literature. The importance of the book from the educator's point of view may be gauged by the fact that it is introduced by Dr. Elmer E. Brown, United States Commissioner of Education.

Folio Urologica, with Professor James Israel of Berlin as Editor-in-Chief, Professor A. Kollmann of Leipzig, Dr. G. Kulisch of Halle and Dr. W. Tamms, of Leipzig, as Associate Editors, and the other principal urologists of Europe as collaborators, is announced by the house of W. Klinkhardt, Leipzig. Contributions will be published in the four languages that are officially used in Congresses.

ORIGINAL ARTICLES.

RENAL CALCULUS.*

By Wm. M. Robertson, M. D., St. Louis.

The existence of urinary calculi was known to the physicians of antiquity, and up to the present time there is probably no other medical subject which has engaged the study of so many men, and very few in which the literature is more extensive. During recent years, owing to the discovery of more exact methods of diagnosis and a more accurate knowledge of the possibilities and technique of renal surgery, interest in the subject has received a more decided impetus. Thus, Morris, in the Hunterian Lectures for 1898, in speaking of affections due to renal calculi, says: "If I put them in the very forefront of surgical affections of the kidney, I do so for the following reasons: (1) they are the most frequent and the most painful of the surgical diseases of the kidney; (2) few operations in surgery are so successful as nephrolithotomy. It gives absolute cure, saving the kidney from progressive destruction, and the patient from what at any time may be an imminent danger of life; (3) no disease gives rise to such a variety of morbid changes in the kidney as calculus when allowed to progress without surgical interference; (4) renal calculus, whilst slowly destroying the kidney, often physically disables its victims by its unrelenting irritation and its unyielding resistance to every form of medical and dietetic treatment."

It is not my intention to discuss the various theories of the formation of calculi. It is well known that they may be composed of a variety of substances; that they may be one or many; that they may occur in one kidney or both; that they are more common at certain ages, in certain climates., etc., but generally speaking, it is impossible to say why they should form in one person and not in another, and why they should form in one kidney and not in both, and what measures we can adopt to prevent their formation or their recurrence.

The position of a calculus is generally in the pelvis of the kidney or one of its calices, but it may be imbedded in the parenchyma, near the surface, where it may form a localized abscess, which may burst into the perinephritic tissue, thus forming the perinephritic abscess.

During recent years, the greatest advance in this field of work has been in the way of diagnosis. Newer and more exact methods have been introduced, until now I believe it is possible to make an exact diagnosis as to the presence, size and location of practically all urinary

* Read before the St. Louis Surgical Club, December 12, 1906.

calculi. The methods to which we must look for aid in making a diagnosis are: a complete history of the case, with a physical examination, disturbance of urination, chemical and microscopic examination of the urine, cystoscopy, radiography, functional diagnosis, exploratory incision. In arriving at a correct diagnosis of any kidney lesion, all of these subjects are of vital importance, and none of them are to be neglected. It is well known that a renal calculus may exist for years quiescent without giving any subjective symptoms suggestive of its presence, and that the symptoms of which the patient complains are referred to distant organs instead of the part affected, and unless all these points of diagnosis are taken into consideration, the presence of a stone might not be discovered, and the patient would in course of time be subjected to the dangers of a pyo-nephrosis, renal abscess, or calculous anuria. I consider a complete history and physical examination of the greatest importance in all diseases. Medical men are, perhaps, more prone than all others to stray off after false gods, and be on the lookout for newer and better methods of diagnosis and treatment, to the exclusion of the old and tried methods. Time was when, before the introduction of the thermometer, the "old doctor" could tell within a fraction of a degree the temperature of the patient, and only a few years ago typhoid fever and diphtheria were diagnosed at the bedside instead of in the laboratory. I am not at all inclined to underestimate the value of the newer methods of diagnosis, but I do not think it proper to subject a patient to cystoscopy, and an x-ray examination, with perhaps ureteral catheterization, as soon as one finds something wrong with the urine, without attempting to arrive at a diagnosis in the old orthodox way. Of all the symptoms of renal calculus, the one most constantly associated in our mind with this affection is pain, and while the history of renal colic may aid us materially in making a diagnosis, we must not forget that in the majority of cases, this symptom is lacking, and that there may be only an ache or a feeling of weight and heaviness in the loin, which is frequently intensified by prolonged standing, shaking or jolting, and is relieved by rest in a recumbent position. It should also be borne in mind that the location of the pain is not necessarily an index as to the position of the calculus; that in a calculus in the kidney the pain may be referred to some point in the ureter, and that a ureteral calculus may cause pain only in the kidney. Of course, pain may be entirely absent, or, if present, may be referred to some distant organ. Perhaps the organ outside the genito-urinary tract most frequently affected by this reflex pain is the stomach.

The largest stone which I have removed from a kidney was one weighing one and three-quarter ounces, in which case the only pain complained of was in the region of the stomach, and was so severe that

when I first saw the patient she had applied mustard-plasters until a space the size of a man's hand had been blistered. There was absolutely no history of renal colic, nor could I obtain from the patient any history of pain or discomfort referable to the kidney region. The urine was loaded with pus and some red blood-cells, but there was very little disturbance with urination. The things which caused her to consult a physician were: the condition of the urine, which looked more like pus than urine, the pain in the stomach, loss of appetite and failing strength. The condition of the urine at once directed my attention to the kidney, and on examination I found a mass in the kidney region about the size of a child's head.

In uncomplicated cases, the physical examination may reveal nothing. It is seldom that a stone can be palpated, even if it is situated in the ureter near the bladder, and the affected kidney may not be felt and may be free from pain and tenderness on palpation, while the other kidney, on account of compensatory hypertrophy, may be both enlarged and painful.

Disturbance in micturition and departure from the normal in the gross appearance of the urine, are frequent symptoms in these affections. Frequency and tenesmus are sometimes so pronounced as to suggest a vesical calculus, and the possibility of a renal affection may be lost sight of

Urine Examination:—Careful and repeated examinations of the urine cannot be too strongly insisted on; urine which is approximately normal to-day may to-morrow reveal signs which are of the greatest assistance to us in making a diagnosis. It is well to divide these cases into two groups: (1) the infected, and (2) the non-infected. These latter cases, which have escaped infection and probably great destruction of the kidney, are especially deserving of repeated examinations, and the urine is likely to show marked variations from time to time, according to the habits and life of the patient. A foreign substance in the kidney, as in any other part of the body, acts as an irritant, and we are likely to find small traces of albumen, hyaline casts, red and white blood-cells, crystals of various kinds, epithelium, etc. In my experience, hyaline casts have been almost invariably found, and their presence in considerable number, indicating as it does renal irritation, I consider of great diagnostic value. Blood may be present only in microscopic amounts, or in great quantity, at times giving the urine almost the appearance of pure blood. Generally, however, the bleeding is not profuse; it is intermittent in character and of short duration. It may be associated with some unusual physical exertion, though I believe that the congestion caused by the presence of a foreign body plays a more important part in its production than does trauma. In most of the cases which have come under my personal observation active bleeding has not been pres-

ent, though I have invariably been able to demonstrate, microscopically, the presence of red blood-cells, and I believe that the constant presence of these microscopic red blood-cells is of more diagnostic importance than is the history of intermittent hematuria; and notwithstanding the opinion of many wiser and more experienced men to the contrary, I believe that the urine passed during the day, when the patient is active, if examined carefully soon after being voided, by one competent and painstaking, and over a sufficient period of time, will invariably show the presence of at least a few red blood-cells.

In the other class of cases, the infected, we have added the elements of pus and bacteria, and our first duty is to make a careful bacteriological examination. The tubercle bacillus must be absolutely eliminated, as the symptoms of a tubercular kidney may duplicate in every particular the symptoms of renal calculus. On the other hand, the pus may be so abundant as to obscure the other pathological elements in the urine. In some cases, the infected urine is the only sign of disease which the patient presents, as is well illustrated in the following case: This patient, 39 years old, a native of Arkansas, was referred to me by Dr. H. R. Hall. There was total absence of subjective symptoms. After close and repeated questioning, the only symptoms of any kind I could get from the patient was a history of repeated attacks of "malaria," and a general feeling of lassitude which had existed for ten or fifteen years, and which prevented the patient from taking exercise, and prompted him to sit down whenever possible. There was no disturbance of micturition, no history of hematuria, no tenderness over the kidneys or ureters, nor could the kidneys be palpated. Three years ago the patient failed to pass life insurance examination on account of pus and albumen in the urine. He then began treatment, and has been almost constantly under some physician's care until the present time. He had gonorrhoea about twenty years ago, and the treatment he has had has been directed entirely to the bladder and prostate. When I first saw him, October 8th, he had nothing to complain of except the condition of the urine. On examining the urine, I found it to contain a little albumen, much pus, red blood-cells, hyaline casts and bacteria. Ureteral catheterization located the trouble in the right kidney, and the x-ray showed the presence of a stone. On October 16th, I removed from the right kidney a stone weighing 135 grains, and the patient is now entirely well. This case is instructive in showing how few symptoms a large stone in the kidney may cause, the value of instruments of precision in making a diagnosis, that an infected urine is not always due to an old gonorrhoea, and that the constant presence of red blood-cells and hyaline casts, are an index of trouble higher up.

The Cystoscope—Its Value and Its Limitations.—Personally, I believe the cystoscope to be the most valuable of modern instruments. I don't believe that it has replaced the older methods of examination and diagnosis. I believe that like all good things its use has been abused. I don't believe in ureteral catheterization unless there is some positive indication for it. I believe the fact that physicians who catheterize ureters indiscriminately and never see any bad effects from it, may be explained by the patients going to other sources to look for relief. I believe that to use it intelligently one must use it constantly. I believe that when a urinary trouble cannot be located, or when the trouble is located in the kidney or bladder, and the question of an operation arises, the cystoscope may give us valuable information. Of course, with the cystoscope, we don't expect to see the calculus unless it is situated at the vesical orifice of the ureter, but we can positively exclude affections of the bladder; and frequently departure from the normal in the appearance of one side of the trigone, and the urethral orifice, will demonstrate which side is affected. If blood or pus is present in considerable amount, this can also be determined, but if it is small, then ureteral catheterization becomes necessary. I consider the cystoscope in many of these cases of considerable therapeutic value. The warm solution with which the bladder is filled causes some relaxation of the muscles, and the ureteral catheter causes a dilatation of the ureteral orifice and a stimulation of the muscular coats of the ureter; and after such an examination I have frequently seen the stone expelled and the patient instantly relieved of all symptoms.

In June, 1905, I saw, with Dr. H. G. Mudd, a patient who gave all the symptoms of a stone in the right kidney or ureter. We made a cystoscopic examination, and found the ureteral opening a large gaping hole with the surrounding mucous membrane prolapsed, and seeming to show the outline of a foreign body. An x-ray picture was taken, which did not show a stone, or much of anything else, and after several ineffectual attempts to get a good x-ray picture, and considering the symptoms and the cystoscopic findings, Dr. Mudd decided upon an operation. As we thought the stone was located at the vesical opening of the ureter, a supra-pubic cystotomy was made. No stone could be felt, and a large sized catheter passed without obstruction into the pelvis of the kidney. It was not thought justifiable to do a further exploration, and the case was considered one of mistaken diagnosis. The patient made an uneventful recovery. Ten months later, he again came under our observation with all his original symptoms much intensified. Pain was constant; frequent urination deprived him of sleep, and life had become a burden. A cystoscopic examination was again made, and the picture was more suggestive of stone than before. An x-ray picture was again taken, this time by a capable and experienced

man, Dr. M. B. Clopton, and a stone of considerable size was shown in the ureter at its point of entrance into the bladder. To eliminate every source of error, it was thought best to have another x-ray picture taken with a styletted catheter passed as far up the ureter as possible. Accordingly I attempted to pass such a catheter, but while the tip would readily engage in the ureteral orifice, its further passage was blocked. After making numerous unsuccessful attempts, it was given up as impossible. After a few days, the patient returned complaining of great pain. Another cystoscopic examination was made, and much to my surprise I found a tremendous prolapse of the vesical mucous membrane resembling a tumor about half the size of a man's fist. As Dr. Mudd, to whom the patient belonged, was out of the city, I told him to return in a couple of days, when Dr. Mudd would be home, and be prepared for immediate operation. When we next saw him, all symptoms had disappeared. He told us that after my last examination he had passed a night of agony, and then for a couple of days gave symptoms of the presence of a stone in the bladder, with interrupted stream, etc. After this, he passed from the urethra what seemed to him to be a number of clots, following which he experienced complete relief from all the painful symptoms from which he had suffered for years. I made another cystoscopic examination, and found the bladder and ureteral orifice approximately normal. It is now seven months since this last examination, and the patient has remained perfectly well and free from all annoyance. I consider his relief due to the stiff styletted catheter dislodging the stone, dilating the ureteral orifice, stimulating the muscular structure of the ureter to increased activity, and finally at my last examination the relaxing effect of the warm solution in the bladder upon its muscular coats. There has not been another x-ray picture taken, but from the history, the present condition of the patient, and the cystoscopic findings, I am convinced that the stone escaped through the urethra. At my original examination, catheterization was not attempted, and in the light of subsequent events, I believe that if it had been, the patient would have been spared many months of pain and suffering.

Another case, was one which I saw with Dr. L. H. Behrens, to whom I am indebted for the following data. The patient was treated by Dr. Behrens in 1903, for pleurisy with effusion. The trouble came on insidiously without pain or other acute symptoms, and was suggestive of a tubercular process, though tubercle bacilli could not be found, nor could a tubercular process be located in the lungs. He was aspirated seven times in five weeks, and finally made a perfect recovery. About a year and a half later, he again came under Dr. Behrens' care, this time his only complaint being hematuria. There was no colic, no pain or other symptoms. The bleeding was profuse, the urine resembling almost pure blood. When I first saw him, after the hematuria had continued

for about six weeks, the patient was in a condition of profound anemia; the mucous membranes were white, and the skin waxy. The patient was so weak that he had given up work, and had remained quiet at home for two or three weeks. Of course, considering the previous history, the present condition of the patient, the profuse, prolonged and painless hematuria, the question of a tubercular process at once suggested itself to me, but this had already been practically eliminated by Dr. Behrens. In order to locate the origin of the bleeding, we made a cystoscopic examination, and found an intermittent stream of what looked like almost pure blood, coming from the left ureteral orifice. On the following day the patient returned, bringing with him a stone about the size of a grain of rice, which he had passed that night from the urethra. The bleeding had ceased, and more than a year and a half have now elapsed without any recurrence, and the patient reports himself as being in better health than for many years.

I have had, with Dr. Behrens, another very similar case with the same happy termination, and were it not for a desire not to become tiresome from reporting clinical histories, I could mention a number of others. Sometimes the stone is passed, and the patient brings it to me. At other times, the stone becomes lodged in the urethra and has to be removed; and then again the patient is conscious of having passed something, but it is lost, and he returns jubilant over the relief from his misery.

There is to my mind no longer any question as to the value of the x-ray in the diagnosis of renal calculus. I believe that a capable man, perfectly equipped and capable of interpreting his findings, can in the vast majority of cases definitely determine the presence or absence of stone. I know nothing about the practical workings of the x-ray, but a picture, to be satisfactory to me, must show the vertebræ with their transverse processes, the last two ribs, the psoas muscle, and in the absence of a stone, an outline of the kidney. If a stone is present, its outline must be sharply defined, and not an indistinct blur on the plate. Dr. H. P. Wells, who has recently done this work for me, has been able to meet these requirements, and I have come to consider his negative findings as important as the positive.

Functional diagnosis in connection with renal calculus is important only in so far as it shows which kidney is diseased, or, if both are affected, which one is doing the more work.

Exploratory Incision.—While the text-books give us exact rules for diagnosing all abdominal lesions, just as they do to diagnose a chancre from a chancroid, we know that all rules have exceptions, and now and then, as a last resort, we must have recourse to the exploratory incision, and in doing this, whether we acknowledge it or not, we ourselves know that we have met with diagnostic defeat.

SOME OBSERVATIONS ON THE WATER SUPPLIES OF THE PHILIPPINE ISLANDS.

By J. D. Long, M. D.
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So far as it has been possible to determine, there are at present, only six towns in the Philippine Islands having water supplies that are worthy of the name of water supply as we consider it. These towns are Manila, Mariveles, Romblon, Balingasag, province of Misamis, Mindanao; Mambajao, Island of Camiguin, and the Leper Colony at Culion.

The system in Manila was built by the Spaniards, the work being partially completed in 1880. The system, especially in later years, has not been entirely satisfactory for the reason that the supply is uncertain; in some portions of the city, at certain hours of the day, no water being obtainable. Aside from this, the water is not a good drinking water, as it contains amoebæ, protozoa and numerous bacteria. There is always present a feeling of uneasiness for the reason that there are persons living on the water shed, and in spite of all precautions that may be taken, the water may become infected with cholera organisms at almost any time. This will be remedied soon, however, as the work on a new system is now under way, the advantages of the new system being increased supply, an uninhabited water shed and hence less danger of infection.

The Mariveles system is for the use of the Quarantine Station, Military Post, and the town of Mariveles. It was installed by the army, the expense being paid from public funds, and was completed in 1901. The supply is secured from a mountain stream, which drains an uninhabited water shed, and is conveyed through a four-inch galvanized iron pipe to the town, post and station. A fairly constant supply, amounting to about thirty tons per hour, can be secured for almost the entire year. Previous to the installation of this system, dysentery, intestinal worms, diarrheas, etc., were common and many deaths resulted from these diseases. Since the system has been in use, these diseases have almost entirely disappeared and practically no deaths are traceable to such causes now. The water has been in constant daily use by the force at the Quarantine Station for drinking, and all purposes without boiling or filtering, and there has been no case of dysentery or other disease traceable to it, although on several occasions amoebæ have been found in the water and are presumably constantly present.

The town was invaded by cholera in August, 1903, the first invasion since 1888; in a very short time the disease was completely eradicated, there bing in all, twelve cases and seven deaths. The reason it was so

easily and quickly eradicated can be attributed to no other cause than the excellent water supply.

There is a population of 2,000 in the town, the condition of living and habits of the people being the same as in other towns of the Islands. It is interesting to note also, that over 12,000 people were in detention in the barracks at the Quarantine Station during 1902 and 1903, and it was the exception to have secondary cases occur among the contacts, in fact it occurred in only one or two instances.

The system at Romblon was begun by the Spaniards and perfected by the Americans. The water is obtained from a mountain stream above all habitation and is conducted in pipes to the town. The same applies here as at Meriveles; dysentery is rare and the death rate is lower than in other towns.

The systems at Balingasag and Culion were built by the army and Insular Government, respectively; no data are obtainable regarding health conditions before or since installation.

The system at Mambajao was built by the Jesuit Fathers.

Other towns in the islands use various methods of getting water; those situated on rivers use water from them; inland towns use shallow surface wells or springs; some collect rain water, others use dug wells lined with stone and in some few towns there are artesian wells.

To mention a few instances, in Malolos, Paombong, Haganoy and Lubao and adjacent towns, the water is principally obtained from surface wells or from a portion of the delta of the Rio Grande de Pampanga. At high tide, the salt water from the bay backs up the river for considerable distance, hence water can only be obtained at low tide; and as the current has been practically at a standstill for some time, all the filth and waste products from the towns above are passing out to sea at the only time that water can be obtained; it then has to be carried for some distance in cans, costing from eight to ten cents, Philippines currency, per carga, a carga being two kerosene cans. In Norzagaray, Angat, Baliuag, Quingua and Pulilan, the water is taken from the river also. It is interesting to note that in Baliuag, the great majority of the cases of cholera in the past few months have occurred on or near the river banks. In Arayat a portion of the water for those who can afford to pay for it, is carried from a spring that issues at the foot of Mt. Arayat; the balance comes from the river. Candaba, San Luis, Apalit, Calumpit, and Macabebe get their water almost entirely from the river. In traveling by the river from San Luis to Apalit, it was noticed that each house on the river bank had two bamboo platforms jutting a short distance into the river, the upstream platforms being used to procure drinking water, the lower one being used as a water closet and laundry. This is reasonable, as far as the individual is concerned, but the man below, who secures his water

from *his* upstream platform gets it only a short distance below his upstream neighbor's water closet and laundry. Several dead animals were also noticed floating in the river.

In Betis there is a well; no one seems to know definitely anything about when it was put in or by whom. It is said to be about ninety feet deep. The water rises to the surface of the ground and gas bubbles up through it continuously. This gas, I am told, is inflammable. In San Fernando, there is an artesian well owned by the railroad company; the water is clear and good, being only slightly salty in taste. The people who use it say they quickly get accustomed to this and do not notice it.

The towns of Paete in the province of Laguna, Lucban and Tayabas in Tayabas province, conduct the water from mountain springs through the town in open canals, users dipping the water from the canals as needed. There are other canals also where laundry is washed and waste matters are carried off. Examination of water from these canals shows numerous amoebæ, monads and bacteria. In Cebu, water is bought from water boats which bring it from the Island of Mactan; the water is considered good, but is very hard.

In Iloilo, water is obtained from wells, cisterns, rain water collected in tanks, or is brought from the Island of Guimeras.

When one considers the number of diseases that can be conveyed by water, the danger from the above named sources of supply can readily be appreciated. It, of course, can be remedied by boiling, but there are many reasons why this will not do. To begin with, the native does not like boiled water; he says it produces disorders of the stomach, rumblings, indigestion, diarrhea, etc.; that the water is dead and that he does not like the taste of it; further, it is too much trouble, and in places where fuel has to be bought, the extra cost of wood amounts to a good deal to the poor man who makes only a few cents per day. Some who do boil it, only do so spasmodically, once per week for example; this amount is sometimes thought to give immunity for perhaps a week and is drunk as one would ordinarily take medicine. Further, when it is boiled, it is allowed to stand around the house in a jar uncovered. Any one who wishes a drink dips in with an empty can or cocoanut shell, wetting his fingers with the water of the jar each time, and if he does not drink all he has dipped out, he carefully pours it back.

When one considers that many natives clean the anus after defecation with the fingers wetted with a little water and frequently are not over particular about washing their hands, it is easily understood why boiled water frequently gives a false sense of security.

Spring water is highly thought of in some sections, but I have seen but few springs that were properly protected so as to prevent surface contamination or use by animals, and as there are always a number of women around them washing clothes, they can hardly be considered safe.

In collecting rain water it is frequently forgotten that dust, bird droppings and decaying leaves and occasionally dead mice are washed in with the water. Amoebæ have several times been found in rain water, that from its manner of collection was thought to be absolutely safe.

Water from surface and dug wells have uniformly shown amœbæ or monads, or both, with a high bacterial count. There are a few artesian wells in the islands, viz: Cavite; two, one in the Navy Yard, 500 feet deep, and one in the town 230 feet deep. They both furnish fair quantities of good water; the percentage of chlorine is high, but we are told that while this ordinarily indicates sewage contamination, in deep wells near the sea it is of no significance. The well at the Arsenal contains amœbæ and other protozoa, but it is said that this is due to faulty construction and can be remedied.

The well on Engineer's Island gives the same result on examination, but it is said the defect in construction can be corrected. This well has a depth of 500 feet. The well at the Bureau of Cold Storage is 700 feet deep and gives good water negative for amœbæ. The wells at San Fernando, Angeles, Camp Stotsenburg, and Caloocan, varying from 65 to 1,000 feet in depth, give good supplies of good water; no laboratory data for these wells are available, however.

A well at Singalong, according to laboratory report, gives water fit for boiler purposes only; the water contains amœbæ and monads. A well at Cebu gave water with very high percentages of total residue, scale forming ingredients, chlorine and also amœbæ and monads.

At Iloilo the limit of the machine was reached without striking water. Wells are being drilled at the present time at Olongapo and Ft. McKinley, but no data are as yet available.

It has been possible to secure information with regard to one driven well only. It is located in Santa Ana and is about ninety feet deep; examination shows high percentages of hardness and total solids, 500 bacteria per c.c. and monads.

With regard to artesian wells, it is thought that most persons will agree with the statement, that if these wells are carefully drilled, cased and protected, and are deep enough to avoid surface contamination, and care is taken not to infect the well during drilling by using infected water to soften the ground for the bit, nor to infect it after completion, that from a bacteriological point of view, only sterile water should be obtained. As regards potability, the chemical examination only can determine and no guarantee can be given with regard to it; this depending on the nature of the country and its geological formation.

The importance of a good water supply has been recognized for centuries; witness the aqueducts of Rome, some of which are in use to the present day; the canals, tanks and cisterns of Nineveh, Babylon, Egypt

and Carthage; the remains of tanks and canals have also been found in Mexico and Arizona. To further emphasize this fact, it is only necessary to name a few of the more common and frequent water-borne diseases, viz: Cholera, dysentery, typhoid fever, intestinal worms, guinea-worm disease, and other disorders brought about by excessive numbers of bacteria.

It is firmly believed that fifty or more per cent. of all the difficulties encountered in eradicating cholera, the majority of the cases of dysentery, the greater portion of the deaths among infants, the great number of cases of anæmia due to intestinal worms and parasites, is directly due to the very inferior grade of drinking water that the inhabitants of the Islands are compelled to use to-day.

Methods of purification are bound to be unsatisfactory in the Philippines for the reason that the people do not care to go to the trouble or expense. Sterilization by boiling, with its drawbacks and disadvantages, has already been discussed. Distillation is out of the reach of the majority and filtration is not satisfactory for the reason that filters require constant intelligent care and so far, none have been found that will remove amœbæ at all, and twenty-eight bacteria per c.c. seems to be as low as the count can be gotten. When there is a constant possibility of having cholera infected water to deal with, it can readily be seen that filtration will not serve.

Chemical purification is entirely out of the question, as the natives would at once say that the water had been poisoned.

In view of the foregoing, the solution of the question seems to be as follows:

In towns near the mountains, where a stream is available, a reservoir could be constructed and the water piped into the town. In view of the history of the Mariveles water supply, I do not think the presence of amœbæ should prohibit the use of such water, provided contamination by fecal or other waste matters can be excluded.

In towns where streams are not available, artesian wells could be used, providing there is a sufficient number of inhabitants to stand the expense of construction without undue hardship.

In towns with too few inhabitants to bear the expense of such a well, driven wells could be used, as they are well within the means of even the smallest towns. The water from driven wells could not be considered as equal to artesian or mountain water. It is, however, infinitely better than can now be obtained in the smaller towns and barrios and the depth of such wells, with protection from contamination of a considerable area around them, should insure protection against infection from cholera and intestinal worms at least, and possibly even against amœbæ.

The objection that these wells supply only small amounts of water

can be met with the statement that barrios are small usually, and do not need a great quantity of water; as these wells are cheap, a number could be put in, in battery, so to speak, connected to one pump, thus insuring a supply equal to the capacity of the pump at least.

Realizing the fact that the people of the Philippines will not for many years to come take the initiative in matters of this kind, and in view of the great importance of obtaining a good water supply throughout the islands as quickly as possible, in order to assist in the eradication of cholera, in the reduction of infant mortality, in the eradication of anæmias due to parasites of the gastro-intestinal tract, and, from another point of view, to give fire protection in towns where there is none at present, however imperfect it may be, the following was prepared and submitted to the Honorable Secretary of the Interior, with whose permission I present it:

(ACT NO.....,)

AN ACT PROVIDING A METHOD OF CONSTRUCTING MUNICIPAL WATER SUPPLY SYSTEM AND THE IMPOSITION OF A WATER TAX TO PAY FOR SAME, CREATING A "MUNICIPAL WATER SUPPLY FUND" IN THE INSULAR TREASURY AND APPROPRIATING THE SUM OF..... .....PESOS TO THE CREDIT OF THE SAID FUND.

By authority of the United States, be it enacted by the Philippine Commission, that:

Section 1. There is hereby created in the Insular Treasury, a permanent reimbursable appropriation, under the designation "Municipal Water Supply Fund," to be used for the purpose of furnishing the municipalities of the Philippine Islands with pure and adequate water supply, as hereinafter provided.

Section 2. The Director of Public Works, in conjunction with the Director of Health, shall cause to be prepared plans and estimates of cost for the installation of a water supply system for any municipality, upon request by resolution of the municipal council, approved by the Executive Secretary. Such plans and estimates shall be prepared in such form that, if accepted by the municipality, as hereinafter provided, they shall form the basis for an agreement on the part of the Government of the Philippine Islands with the municipality to install the water system as proposed for the cost estimated.

Section 3. The municipal council shall, subject to the approval of the provincial board, fix the limits of the water district to be benefited by any such system, within which the water tax may be levied as hereinafter provided.

Section 4. The municipal council, upon receipt of the plans and estimates provided for by section two, of this Act, if the construction of the water system therein proposed appears to them to be for the best inter-

est of the municipality, shall, by resolution, fix a special per capita tax sufficient to pay the cost thereof, to be levied within the water district fixed as prescribed in the preceding section upon each person whose residence is within such district and who is subject to the payment of any other form of tax to the insular, provincial, or municipal government. The per capita rate of such taxation shall not exceed three pesos per annum. Such resolution shall also fix the length of time during which this tax shall be collected, which in no case shall exceed five years.

Section 5. Such resolution, after approval by the Executive Secretary as to the sufficiency of the proposed taxation to meet the cost of the work to be done, shall be submitted at a special election for ratification by the persons subject to the tax therein proposed to be levied. Such election shall be held in the same manner as any other special municipal election, except that the municipal president shall order same and fix its date by notice posted at the main entrance to the municipal building and in a public and conspicuous place in each barrio within the water district, which notice shall state the time, place and purpose of the election, shall quote the resolution of the council which is to be presented for ratification, and shall state that all persons subject to the payment within such district of any taxes to the insular, provincial or municipal governments, are entitled to vote thereat. The municipal treasurer shall prepare a list of all such taxpayers, which list shall be posted and protests received in the same manner as provided in section 9 (b) of the Municipal Code. The ballots to be used at the election shall be prescribed by the Executive Secretary and furnished the municipalities in the same manner as other municipal forms.

The board of election judges shall certify the result of the election to the Executive Secretary, and if the proposed resolution of the municipal council has been ratified by the taxpayers, the certificate of the results of the election shall be accomplished by a resolution of the council accepting the terms of the Insular Government for the installation of the water system and levying the proposed tax to pay therefor.

Section 6. When the terms of the Insular Government have been thus accepted and the tax levied, the Executive Secretary shall notify the Director of Public Works and the Director of Health to at once proceed with the installation of the water system. The expenses of installing the system shall be paid by the Insular Disbursing Officer, or by any other disbursing officer when the Executive Secretary may so direct, upon vouchers approved by the Director of Public Works. Copies of the certificate of the result of the election and the resolution of the municipal council shall be furnished by the Executive Secretary to the Insular Auditor.

Section 7. Upon the completion of the work necessary for the com-

plete installation of the system in accordance with the above mentioned agreement, the Executive Secretary shall be advised of such fact by the Director of Public Works and the Provincial Treasurer, upon the certification of such fact by the Executive Secretary, proceed to collect the tax levied. He shall deposit such collections monthly in the Insular Treasury to the credit of the "Municipal Water Supply Fund" and shall render to the Insular Auditor a separate account for these collections in such form as the Auditor shall prescribe. The tax shall be payable in four quarterly installments, payable during the months of January, April, July and October of each year. The quarterly payment shall become delinquent after the last day of the month within which it is payable, and a penalty of one hundred percentum shall be added thereto, to be collected in the same manner as the original tax. The collection of the tax may be enforced in the same manner as provided for the enforcement of the collection of the cedula tax in section 122 of Act 1189, as amended, but the time of imprisonment shall be proportionate to the amount of the water tax imposed as compared with the amount of the cedula tax imposed by the above named Act.

Section 8. The provincial treasurer shall collect this tax during the period of time specified in the resolution of the council establishing same, unless the entire amount necessary to pay for the work done shall be sooner collected and the municipal council shall order the discontinuance of the tax. Any amounts resulting over and above the cost of such work, shall be paid into the municipal treasury as a trust fund to be expended by the municipal council for the maintenance or extension of the system for whose construction it was collected.

Section 9. The Director of Public Works shall advertise for bids for all work to be performed under the provisions of this Act, by advertisement published for ten days in a paper of general circulation throughout the islands, and the contract shall be let to the lowest responsible bidder, unless the Director of Public Works shall find that the work may be more advantageously performed by the Bureau of Public Works, in which case all bids shall be rejected and the work performed directly by such Bureau.

Section 10. If, after beginning the work, it shall be found impossible to complete same in accordance with the agreement entered into with the municipal council, the work may be discontinued by order of the Director of Public Works, with the approval of the Executive Secretary, and the value to the municipality of the work accomplished, in proportion to that agreed upon, shall be determined by a committee composed of the Executive Secretary, the Director of Public Works and the Director of Health, and the tax ordered levied shall be collected only for such time as shall realize a sum sufficient to pay the amount which may be fixed by the com-

mitee named as the equitable value to the municipality of the results accomplished. Where the work done results in no benefit to the municipality no charge shall be made the municipality therefor, but all payments shall be a charge against the "Municipal Water Supply Fund" above provided for. To meet such possible losses, a surcharge of ten per centum of the probable cost of the work shall be included in each estimate furnished any municipality in accordance with section two of this Act.

Section 11. There is hereby appropriated, from any moneys in the Insular Treasury, not otherwise appropriated, the sum of ..... pesos to be placed to the credit of the "Municipal Water Supply Fund" created in section one of this Act. This sum shall be and remain a part of said fund, subject to expenditure as herein provided, until such time as there may arise in such fund a surplus equal to the amount of this appropriation. When such surplus shall be found to exist the sum herein appropriated shall revert to unappropriated funds in the Insular Treasury.

The advantages of the above are apparent; the people can have water and be taxed, or no water and no tax as they may wish. The tax per capita is small, the minimum being $15.00 to be paid in a period of five years; this sum, compared to the expenditure for water now, from ten to thirty centavos daily is nothing comparatively speaking. The municipality loses nothing if the system is not a success, as the tax is not levied until the system is a success; this also obviates the necessity of paying for water and paying the tax at the same time, which might be burdensome on the very poor. When the work is finally finished, the money appropriated originally reverts to the Government and all it has lost was the use of the money for a period of time in which it could hardly have been used a better advantage.

A CASE OF TUBAL ABORTION, WITH COMPLETE DETACHMENT OF FOETUS FROM PLACENTA AT SIX MONTHS—RESULTING IN OMENTAL ATTACHMENT AND BEGINNING LITHOPEDIUM.

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Superintendent and Surgeon in Charge Female Hospital.

Patient was admitted to Female Hospital Aug. 7, 1906; name, C. P.: age, 31; German; occupation, housewife; had three previous labors; two children alive, one dead; no abortions; weight, 117 pounds; size, 5 ft. 2 in.; previous general health has been very good up to the past few weeks, when she suffered with cramp-like pains in the abdomen and

small of the back. Bowels, regular and 18 urinalyses made during her stay in the hospital, all were negative. Last menstruation, Jan. 26, 1906; date of quickening, June 15th; a week ago, that is, Aug. 1st, patient had done some washing and in the evening she became sick with cramp-like pains in the back and right side of lower abdomen. The pain came on gradually, but it suddenly increased to severe pain, so she sent for a physi-

FIG. 1.—LITHOPEDIUM.—Showing the characteristic configuration and the beginning calcification about the scalp. The roughened surfaces on the anterior surface of the trunk and on the contorted extremities show the attachment of the omentum.

cian, who prescribed and relieved the pain for the time being, but for two days following she had some pain and headache. There was absolutely no bleeding from the vagina during the attack. Since that time she has felt no foetal movements and at present is somewhat weak and tired and has some pain in the small of her back. Temperature, 98; pulse, 96; respiration, 22. Accelerated pulse rate was thought to be due to excitement incident to leaving her children and coming to the hospital. No

evidence of syphilis or rickets; chest, normal; bacteriological examinations of vaginal secretions for gonococci, by Gram were negative.

Pelvic Measurements; Interspinal—26 c.m.
Intercristal—29 c.m.
Bi-trochanteric—31 c.m.
External Conjugate—20 c.m.

The abdomen was ovoid and its greatest circumference was 79½ c.m. The abdominal wall was of such thickness and tension that palpation was difficult, hence the exact height of the fundus was not determined;

FIG. 2.—PLACENTA.—Showing the placenta in the distal end of the fallopian tube. A, represents the proximal end of the fallopian tube. B, represents the normal ovary. C, cut section of placental tissue. D, the opening through which the fœtus escaped, showing the remnants of membranes.

fœtal parts could not be outlined and no fœtal heart sounds were audible on auscultation.

On vagino-abdominal and recto-abdominal palpation, cervix was found open sufficiently to admit one finger. The uterus was central, softened and enlarged and a large, hard mass was found to the right and slightly posterior to it. It was slightly movable and gave but very little discomfort on pressure.

There being no special indication to operate immediately, for the patient was comfortable, she was kept under close observation.

The several blood examinations made showed, as follows:

August 17—Haemoglobin, 85 per cent.
Leucocyte Count, 10,266.
Erythrocyte Count, 3,876,000.

October 16—Haemoglobin, 95 per cent.
Leucocyte Count, 16,132.

November 16—Haemoglobin, 100 per cent.
Leucocyte Count, 10,400.
(Day before operation)

My purpose in waiting up to this date before operating, was to give the foetus a chance to develop to a viable age, if alive, for since she

FIG. 3.—PLACENTA.—Shows another aspect of same specimen two-thirds natural size.

was under constant observation, there was little danger in this, as immediate operation could have been decided upon had she developed any untoward symptoms.

Laparotomy was performed on November 17, 1906, and disclosed the following interesting pathology:

The foetus was partially enveloped by the thoroughly adherent omentum and was located in the region of the umbilicus or even slightly

above it, and showed no trace of any cordal attachment to the placenta, which was plainly visible in the right tube.

The ostium of the tube was perfectly sealed by the membranes and contained about one-half ounce of fluid, apparently serum.

The entire placental tissue occupied only the outer third of the tube, which was greatly distended and thickened, and thus accommodated the amount of pressure it withstood before aborting, and no protrusion or external evidence of a cord could be found. This proves that the cord must have been stretched or torn off, and subsequently macerated and absorbed, and that after the abortion was complete, the tube collapsed on the placenta; its membranes plugging the open end sufficiently to prevent a severe hemorrhage. She, undoubtedly, had some hemorrhage when the abortion occurred, but there was no trace of it at the time of operation.

Salpingo-oophorectomy was done, by cutting the cornu of the tube out of the uterus by an elliptical incision to insure the entire removal of mucous membrane and the wound thus made and the broad ligament were sewed with a buttonhole stitch of catgut.

The foetus was detached from the omentum by ligatures and the appendix, which was retrocecal and held down by adhesions, was also removed. The patient had an uninteresting convalescence.

The uterus was curretted at a later date to insure removal of decidual membranes but none were found; evidently they were passed spontaneously and escaped the notice of the patient.

The patient improved greatly in general health while under observation, having gained about 20 pounds in weight during her stay in the hospital.

On close inspection of the foetus, grayish white spots were noted, superficially on the skull and in various locations, which looked like early calcareous formations, and it is my belief that this would have been more typical, had the specimen remained longer. The contour of the head and the contortion of the extremities are also characteristic of lithopedium.

5600 Arsenal Street.

PEYER, HIS LIFE AND WORKS.*

By Albert E. Taussig, M. D.

The sixteenth century presents, in the history of medicine, the most astonishing contrasts. Side by side with the great theorists and charlatans, Cornelius Agrippa, Cardan, Paracelsus, van Helmont, and others who filled great tomes with futile speculations that in turn carried the world by storm and were forgotten, there labored modestly in the quiet of their work-rooms a group of men who were laying the foundations of modern anatomy and physiology. As the result of the discoveries of Vesalius, Columbus, Eustachius, Fallopius, Fabricius of Aquapendente, Michael Servetus and others, a flood of light was shed upon human gross anatomy, while Harvey's great discovery early in the following century made possible a scientific physiology. In the seventeenth century, the age of baseless speculation had definitely departed. No revolutionary discoveries in anatomy remained to be made, but all over Europe a host of zealous workers were dissecting and experimenting, each eager to add his mite to the sum of human knowledge. A wave of scientific enthusiasm, equal in intensity, if not in volume, to that of our day, had swept over Europe. It was into this world that Johann Jacobus Peyer was born in 1653, at Schaffhausen, near the Falls of the Rhine. His parents belonged to an old patrician family of that town and were able to give their son every educational advantage. His medical studies were begun at Basel, where he met Harder, to whose influence he owed much. Harder was one of the first to study scientifically the effects of drugs by means of animal experiment, a line of research which always remained a favorite one with Peyer. Together, the two young men showed, for the first time, that the heart contracts as the result of stimulation, not only during life, but even after death. From Basel, young Peyer went to Paris, from a physiological environment into one in which anatomy reigned supreme. Joseph Guichard Duverney was then at the height of his fame. The son of a doctor, the precocious boy had completed his medical education at an absurdly young age, was made a member of the Academy of Sciences at 26 and Professor of Anatomy at the Jardin du Roi at the age of 31. While all the great anatomists before him had been practitioners as well, Duverney, defying the prejudices of his time, devoted himself exclusively to anatomy. In the eulogy with which custom bade each academician to celebrate his predecessor, Fontanelle, who succeeded him in his seat at the Academy, relates marvelous tales of the contagiousness of his enthusiasm. Not only was his auditorium crowded with students and members of the faculty, but members of the nobility, women as well as men,

* Read before the St. Louis Medical History Club, March 28, 1907.

were wont to attend and, it is said, often carried away with them portions of the cadavers dissected. But Duverney had the defects of his qualities. His anatomical work, which was accurate and scientific in the highest degree, did not content him. In the effort to interpret his observations he loved to launch himself upon baseless and often absurd speculations, and it was these, rather than his data, that he considered his chief contributions to knowledge. In 1687, Peyer, then 34 years old, returned to Basel, took his degree there and settled down in his native Schaffhausen. Here he was soon enrolled in the teaching force of the local academy, but strange as it may seem, not as an instructor of medicine, but successively as professor of rhetoric, logic and physics. His interests, however, continued to be chiefly medical. Together with his colleagues, Screta and Wepfer, he undertook pharmacologic researches and sought an explanation of the nature of disease in the performance of autopsies. He was, moreover, one of the first adequately to describe the digestive organs of ruminants. His chief title to fame, however, rests upon his discovery of the intestinal lymph-glands that have received his name. The *Exercitatio anatomica-medica de glandulis intestinorum, earumque usu et affectionibus* was published at Schaffhausen in 1677 and reprinted four years later, with the addition of three plates, at Amsterdam. It is this second edition that I have the pleasure of showing you to-night. The book is dedicated to Harder and to Peyer's two colleagues, Wepfer and Screta. I have found its perusal suprisingly interesting. After a detailed description of the patches, exclusively macroscopic however, he gives an account of their appearance in various animals. He first found them in the cat, then in dogs, hogs, sheep, goats, cattle, dormice, moles and hedgehogs, not, however, in caterpillars. His friend Wepfer, while on a hunting expedition, found them in wolves and hares. Owing to the great difficulty of obtaining human cadavers for dissection, Peyer was for some time unable to show their presence in man. Before long, however, Screta was able to dissect a soldier who had been stabbed by a comrade, and found Peyer's patches in the intestine, and Harder soon after found them in two more human cadavers. Finally, as he relates with ill-concealed pride, Peyer himself was able to demonstrate their presence in the body of an eight-year-old girl. So far Peyer proceeds with a thoroughly modern scientific precision. It is, however, an interesting illustration of the mental attitude of his time as well, perhaps, as of the influence of his teacher Duverney, that Peyer was unable to rest content there. He must needs enter into speculations concerning the functions of the glands, for which the physiologic knowledge of the day offered no adequate foundation. In the first place, since the lacteals have no direct connection with his patches, he concludes that they cannot belong to the lymphatic system. As the result of *a priori* reasoning he finds, correctly enough, that

the digestive ferments secreted by stomach, liver and pancreas cannot suffice for the complete digestion of food and argues that it must be these patches that supply the final digestive fluid. He finds conclusive confirmation of this theory in the observation that when scraped with a scalpel the patches exude a watery secretion. By means of careful dissection he made out the presence of blood vessels and nerves in the patches. The former, he holds, bring to his glands the gross substances which, by means of the *spiritus nitro-aerus* carried by the nerves are elaborated into digestive fluid. The last half of the treatise is devoted to utterly baseless speculation concerning the part these tissues play in disease, speculations into which it is not worth while to go.

Peyer was a profuse writer. He used the rather barbarous Latin of his day, but in common with most of his contemporaries did not condescend to the use of the vulgar tongue in his medical writings. He died in 1712 at the age of 59.

Works of Johann Conrad Peyer.

Exercitatio anatomica-medica de glandulis intestinorum, earumque usu et affectionibus. Cui subjungitur anatome ventriculi gallinacei. 1677.

Methodus historiarum anatomico-medicarum, exemplo ascitis, vitalium organorum vitio et pericardii coaliter cum corde nati illustrata. 1677.

Meditatio de valetudine humana. 1681.

Parerga anatomica et medica. 1681.

Paeonis et Pythagoræ (*noms de plume of Peyer and of J. J. Harder.*) exercitationes anatomico-medicæ. 1682.

Experimenta nova circa pancreas. 1683.

Observatio de uteri et vesicæ urinariæ procidentia. 1683.

Myrecologia, sive de rumantibus et ruminatione commentarius, 1685.

Also many contributions to the proceedings of the K. K. Leopold Akademie.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

PATHOLOGICAL MUCOUS PRODUCTION IN THE STOMACH.—Schuétze (*Wiener Klin. Wochen.*, No. 9, 1907) in a carefully written article, goes into the question of mucous production in the stomach and its significance. He believes that, based upon his own observations and those of others, one is justified in arriving at the clinical diagnosis of catarrh of the stomach only when one has found a marked amount of mucous in the stomach contents. He lays great stress upon the method in which this is determined and points out the importance of carefully testing the fresh stomach contents to see whether or not it contains an abnormal amount of mucus. Whenever the stomach contents contains a large amount of mucus it is due to a pathological condition. The intimate mixture of the mucus with the stomach contents, the fact that the healthy stomach contents contains little or no mucus, the fact that the mucus is usually decidedly acid in reaction all prove conclusively that the presence of the mucus is not due to the introduction of the tube, as is supposed by some. The presence of the mucus is practically the only pathognomic sign of gastritis. The amount of acid may vary as in other stomach diseases, but a high acidity speaks more for gastritis than does sub-acidity, which occurs but seldom. The author's findings are at variance with the publications of some others, who maintain that subacidity is the rule. He points out the fact that this disease is not as frequent a one as is usually supposed.

THE TREATMENT OF EROSIONS OF THE OESOPHAGUS DUE TO LYE.—Bass (*Wiener Klinische Wochen.*, No. 11, 1907.)—The treatment of fresh erosions should be begun as soon as possible after the disappearance of the acute manifestations. In mild cases in the beginning of the third week. He recommends the soft bougies filled with lead. The treatment should be continued as long as possible. The treatment of old strictures must depend upon the nutrition of the patient. In greatly emaciated individuals or cases in which fluid nourishment can not be taken the gastrostomy should be done as quickly as possible, in order to improve the nutrition of the patient. As soon as this is accomplished and the conditon of the patient permits of it, the stricture should be dilated through the gastrostomy opening. The gastric fistula should be closed only when it is found that food passes from the mouth into the stomach without the slightest obstruction. In cases in which sounds can be introduced with great difficulty and in which fluid nourishment may still be taken, theosinamin injections should be tried (hypodermic filled with

15 per cent, solution, 2 to 3 times a week). If this is without results, then gastrostomy with retrograde dilatation must be at once instituted. Inasmuch as theosinamin is said to soften not only fresh scars, but also old inflammatory masses, it would seem to be contra-indicated in cases of fresh scars, due to operation, in tuberculosis, etc. Therefore, before this treatment is started a careful examination of the whole body must be made.

The Katzenstein Method of Determining the Heart's Force.—Hoke and Mende (*Berliner Klinische Wochen.,* Nr. 11, 1907).—In 1904, Katzenstein described a method of determining the heart's force, in which the blood pressure and the pulse rate are determined before and after compression of the femoral artery at Poupart's ligament; and found (1) in a normal, sufficient heart, an increase of the blood pressure to the extent of 5 to 16 mm. of quicksilver, with a constant or diminished pulse rate. (2) In the normal heart, blood pressure + 15-40, with pulse the same or diminished. (3) In slightly insufficient hearts, the blood pressure zero, the pulse remaining the same or diminished. (4) In decidedly insufficient hearts, blood pressure minus and the pulse plus.

The authors have tested this method in fifty cases, using the Gærtner thermometer and manual compression. Their results were at variance with those described by Katzenstein. They found in healthy individuals with normal hearts, that with the increase of blood pressure there was not constantly the same or a diminished pulse frequence. In diseases of the kidney, however, where there was hypertrophy of the heart, the results were the same as those of Katzenstein. They do not consider this method absolutely reliable, nor entirely indifferent for in several cases they met with unpleasant complications.

Concerning the Continuance of Polyuria in Diabetics After the Total Disappearance of Glycosuria and the Transition From Diabetes Mellitus into Diabetes Insipidus.—Teschenmacher (*Muench. Medicin Wochen.,* No. 12, 1907) points out the fact that polyuria and glycosuria do not necessarily go hand in hand in diabetes, but that the sugar may disappear entirely and the polyuria continue, and recites cases in corroboration of this statement. He reports also a case of great interest in which, after a whole year of diabetes mellitus, the sugar disappeared entirely and after thirteen years the patient had a diabetes insipidus, at the end of which time gylcosuria again occurred for a period of eight months, only to make way again for diabetes insipidus at the end of that time. In the search of the literature the author has not been able to find a similar case reported.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

THE ETIOLOGY OF HOG CHOLERA.—M. Dorset, B. M. Bolton, C. N. McBryde.—(*U. S. Department of Agriculture, Bureau of Animal Industry*, Bulletin No. 72).—The work on hog cholera, performed by the authors named, is of the most fascinating interest theoretically and practically. It is so very instructive concerning the falsity of our belief in absolutely established scientific truth, a definite proof that facts are always only relative; that no fact is absolute; that advance in knowledge may show the basal points of every fact as wrong. The devastating animal disease known as acute hog cholera, since Salmon's work, has been connected in its etiology with the bacillus choleræ suis. The discovery of the latter has, for years, been considered one of the great triumphs of bacteriology. That this bacillus is only a secondary factor, that the principal agent in the death-dealing disease, the acute form, is an ultramicroscopic, filterable virus, has been established by the authors of this bulletin. The details of this tedious investigation can not be followed here, but it is necessary to follow the authors in their general conclusions, mostly with their own words, to demonstrate what the character of this work is, and what careful and objective scientific work will lead to. Their experiments have shown that pure cultures of B. choleræ suis injected subcutaneously into hogs, usually produce only slight disturbances, although after intravenous injections or feedings, a severe illness frequently results. The disease produced in this manner may cause symptoms and lesions seen in acute hog cholera, but does not possess the characteristics of contagiousness nor of infectiousness of the blood; nor are those hogs which have recovered from such illness immune when exposed subsequently to the natural disease. In regard to the experiments with pure cultures of B. choleræ suis, therefore, we may say that they demonstrate the very considerable pathogenic power which that organism possesses for hogs; but they also show that the disease produced by that organism lacks several of the essential features of acute hog cholera.

The experiments with blood serum derived from hogs sick of hog cholera and proven to be free from B. choleræ suis, show, on the contrary, that such serum produces illness in hogs with great regularity upon subcutaneous injection, and, furthermore, that the disease thus produced possesses all of the characteristics of the natural disease, including symptoms, lesions, contagiousness, infectiousness of the blood, and complete immunity in those animals which recover. These results are in such striking contrast to those obtained when cultures of B. choleræ suis are used, and they are in such perfect harmony with those obtained by the use of unfiltered blood from sick hogs, that we are forced to conclude that there exists in the blood of hogs suffering from acute hog cholera, some virus other than B. choleræ suis, and that this virus is necessary for the production of that disease.

This virus, present in the blood of hogs sick of acute cholera, but absent from pure cultures of B. choleræ suis, is known to us only by the effects it produces. We have failed completely in all attempts to discover by microscopic examination or by the usual cultural methods, any visible micro-organisms in these filtrates. That the pathogenic power of the filtered blood is due to some living agent endowed with the power of reproduction, and not to the presence of a toxin alone, there can be no doubt, from the fact that the disease induced by the filtered serum is communicated from sick to healthy animals by association, and, moreover, from the fact that we have transferred the disease induced by filtered serum to a second and even a third animal, by subcutaneous injections, the serum being filtered each time previous to inoculation.

While our experiments establish beyond question that the filterable virus was present in all the outbreaks of hog cholera studied experimentally by us, it is also true that B. choleræ suis was present almost uniformly.

The exact role played by B. choleræ suis in outbreaks of acute hog cholera is difficult to define. The filterable virus seems not only to cause disease by itself as shown by the results of many of our experiments, but it seems also to be able to lower the resisting power of the hog, and thus enable B. choleræ suis to invade the body, and this, we believe, takes place in the majority of cases in natural outbreaks. If the filterable virus is capable of lowering the resisting power of hogs for B. choleræ suis, then it is easily conceivable that other agencies may also lessen the resisting power of these animals.

So it must be admitted that a disease in hogs may exist which is due to B. choleræ suis and having no connection with the filterable virus found by us in the outbreaks we have studied. From the knowledge we have of the pathogenic powers of B. choleræ suis, however, we would expect that any disease in which it is the chief pathogenic factor would be possessed of a low degree of contagiousness.

The conditions would be entirely analogous to those under which many pathogenic micro-organisms exist, as for example, the pneumococcus in the mouths of healthy individuals, and the swine plague bacillus (B. suisepticus) on the tonsils of healthy hogs and in the pens where healthy hogs are kept, the supposition being that micro-organisms present in small numbers or possessing a low degree of virulence, are successfully resisted until certain influences either heighten the virulence of the bacteria, or lower the resisting power of the animal body. The production of disease by feeding small quantities of B. choleræ suis might seem to indicate that that organism could not remain in the hog's intestines without giving rise to more or less serious disturbance, but it should be remembered that these small quantities of culture (1-10 to 1-2 c.c.) contain enormous numbers of bacilli and probably many more than the hog under ordinary circumstances is able to resist.

Whatever may be the port of entry or the influences which bring about an invasion of B. choleræ suis, we are convinced that the filterable virus was responsible for the high degree of infectiousness and therefore, for the spread of disease encountered in several outbreaks of acute hog cholera described in previous pages of this bulletin. It seems reason-

able to suppose that what has been found to be true in these eight outbreaks is also true of other epidemics of acute hog cholera, and that therefore the extensive losses occasioned by outbreaks of that disease are to be attributed in the main to the filterable virus. In many of the individual hogs, the fatal termination may have been, in large measure, due to B. choleræ suis, and the probabilities are that without the filterable virus comparatively few hogs would have been attacked.

It follows from all that has been demonstrated that, if a practical method of protecting hogs from the filterable virus should be discovered, the problem of combating hog cholera, at least the highly infectious form of that disease, will have been solved.

Contributions to the Biology of Diplococcus Intracellularis. —Experimental Cerebrospinal Meningitis in Monkeys.—Concerning a Serum Therapy for Experimental Infection With Diplococcus Intracellularis.—Flexner (*Jour. of Exp. Medic.*, Vol. 9, No. 2).—Flexner gives in these three papers the detailed results of his work on the meningococcus during the New York epidemic of 1905, that resulted in 2026 deaths. The general results were published in the *Jour. of Amer. Med. Assn.*, (1906, p. 560), and were reviewed in this Journal. The great mass of detail and the great number of single observations given in these papers cannot be extensively referred to. The general trend of the investigations can be better understood by consulting the previous publication. The work on the biologic qualities of diplococcus has taken very different directions and established peculiarities of this organism which throw light on its activity in human and animal infection. It throws light on the many failures to establish the diagnosis by the microscope or culture in sporadic and other cases, by the knowledge now obtained of the biologic qualities of the coccus. This and the positive results obtained by the inoculation of guinea pigs and monkeys, have buried all doubts of the specificity of the organism and its etiologic character in cerebrospinal meningitis, and Flexner has the priority in this direction over work done, about simultaneously, in Germany by Kolle and Wassermann and by Jochman. The studies of the action of homologous antidiplococcus sera on infected monkeys are of theoretic importance only. Several could be saved by the simultaneous injection into the spinal canal of serum and culture. In some cases, by a separate injection, the serum being given 6 hours after the culture, death could be prevented. The experiments with subcutaneous injections of the serum have not yet come to conclusion. How far the results achieved will be appliacble theoretically in the human disease it is impossible to tell. In acute cases the hope is slight, while in the more chronic forms, serum injections may be found to be effective. Through all of this work there runs a thought—the almost certain conclusion—that in animal as well as in human disease, the diplococcus intracellularis acts not by a septicemic multiplication, but by its great vital debility, leading to its quick death. Processes of autolysis convert the bacteria into an endotoxin that is extremely toxic and produces the disease in animals with absolute certainty. The serum, therefore, is most likely not antitoxic, but bactericidal. A peculiar suggestion is the result of ex-

periments made with normal serum, which in animals seems to retard, perhaps not to cure the disease in its earlier stages. For human meningitis the observations of Flexner must be considered as worthy of application in view of the utter impossibility of directly influencing the infection. Flexner's work is a classic product of our American science and is far superior to any work done during the last few years in Germany, although the bulk of the latter is surprisingly great.

Experimental Arterial Degeneration.—Miller (*The Amer. Jour. of Med. Scis.,* April, 1907).—The question whether the arterial degeneration, after intravenous injection of certain substances, is conditioned by the increase of the blood-pressure or by the toxic effect of the substances, is not solved. Miller, in a series of careful experiments, in which physostigmin and barium chloride were added to the already known list, has been unable to interpret the results in favor of the one or the other opinion. He concludes that there are very many substances which have the effect, bacterial toxins, suprarenal extract or adrenalin, phloridzin, digitalis, nicotine, physostigmin, barium chloride and lead. Most of these increase the blood pressure, though not all of them do so. This may be due to the fact that the investigation, starting from the idea that blood pressure was at the bottom of the phenomena, selected blood pressure raising substances. The investigation of substances not having this effect ought to be more widely pursued. Physostigmin and barium chloride cause degeneration, the latter in histologic character somewhat different from that produced by suprarenin. Subcutaneous injection of the latter may cause a definite rise of pressure, thus contradicting the assertion that arterial degeneration following subcutaneous injection of adrenalin is due to its toxicity, and to the increase of the pressure. The attempts to inhibit the pressure effect of adrenalin by amyl-nitrite were not successful. Therefore, the observations after combination of these two substances, said to prove the toxic causation of the lesions, cannot be accepted as evidence.

Natural Pneumococcus Infection in Animals, and Experimental Investigations of the Origin of Pneumonia.—H. Selter, (*Zeitschr. f. Hyg. u. Infect. Ur.,* Vol. 54, H. 3).—An epidemic among the rabbits in the bacteriological institute at Bonn, caused on investigation the discovery of infection with typical pneumococci. The organisms could be cultivated from all of the organs of the animals. Inoculated into other rabbits, they always produced a septicemia, with swelling of the spleen, though without particular involvement of the lungs. Only small foci of infiltration could be found. Even direct introduction of cultures into the trachea did not give rise to a pneumonic process. The demonstration that even in healthy animals (rabbits and guinea-pigs) the lungs are not always free from pneumococci and other bacteria, caused Selter to try to produce a pneumonia by cooling, or by the introduction of irritating substances into the trachea or bronchi. The result was always

negative. It is very probable that the first invasion in animals and man occurs in the buccal cavity, the lungs being directly infected from this locality. It is not explained under which circumstance a pneumonia occurs. In the same issue the author reports the results of his experiments on the presence of bacteria in normal body tissues. Generally the lungs cannot be considered as germ-free organs. Very frequently spore-forming bacteria are found. Pneumonocci and other pathogenic forms are also to be found. Deep inspiration may detach from the buccal mucosa small droplets containing bacteria which may be transported even to the peripheral portions of the lung. This same occurs also during chewing and swallowing. The bacteria pass from the lungs to the bronchial glands. Liver, spleen, kidneys and blood are, under normal circumstances, free from bacteria. The intestinal mucosa, macroscopically intact, is not altogether impermeable for bacteria. The bacteria are collected in the mesenterial glands. Even the intact skin allows of the penetration of bacteria that are confined in the subcutaneous lymphatic structures. For the freedom from bacteria of internal organs and blood, not so much the lungs or the mucosae are to be considered, but the regional lymphatic glands.

Absorption From the Peritoneal Cavity.—Buxton (*Journ. of Medical Research,* Vol. 16, No. 1, 1907).—The careful studies of Buxton on the absorption from the peritoneal cavity made on animals (mainly rabbits) result in the following conclusions: Bacteria injected into the peritoneal cavity of experimental animals, even in minute doses, reach the circulation in a few minutes. The immediate absorption of bacteria takes place by the lymphatics of the diaphragm. Assuming such an immediate absorption to take place also in the human subject, the experiments have some bearing on the subject of operative peritonitis and its treatment. To avoid a rush of bacteria to the diaphragm the Fowler position is indicated, and flushing of the peritoneum is contraindicated. Rabbits, after intraperitoneal injection of living typhoid bacilli, frequently die from toxemia in about two hours. This indicates the probable cause of so many deaths from "shock" after operation for perforation, with irrigation. If a rabbit survives the "shock" period, it may die in about 24 hours. This appears to correspond to the deaths after operation for perforation, in which the fatal termination is reckoned in days instead of hours. These conclusions apply only to cases in which B. coli communis or allied species are the infective agents. Reasons can be given for supposing that streptococcus infections run a different course.

DIAGNOSIS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

NUN'S MURMUR.—Wiedemann (*v. Leuthold-Festschrift,* Vol. I; abstr. in *Berl. klin. Wochenschr.,* 1907, No. 8).—A murmur heard over the jugular veins is generally considered pathognomonic for anemia. Wiedemann, however, states that it frequently occurs in perfectly normal individuals. In 300 healthy young men, from 17 to 30 years old, a nun's murmur was found in 80 per cent, with the head turned to one side, and in 69.3 per cent, with the head straight. It is more frequently heard on the right side than on the left, and occasionally occurs with the head straight, though absent when the latter is turned. The hemoglobin was determined in 85 men. Of these, 78 had 90 per cent. hemoglobin or over, while of these a venous murmur was audible in 73. Several men, with unusually loud murmurs showed no sign of anemia. These results coincide with those previously obtained by Weil and Apetz, and should give the quietus to the belief in the significance of nun's murmurs for the diagnosis of anemia and chlorosis.

THE STAINING OF THE CEREBRO-SPINAL FLUID.—Pappenheim (*Wien. Klin. Wochenschr.,* 1907, No. 10).—The examination of the stained sediment obtained by means of lumbar puncture has of recent years acquired considerable diagnostic importance. In particular, the estimation of the percentage of the various kinds of white corpuscles present in this fluid gives valuable information regarding the existence of meningitis, cerebral syphilis, etc. These cells, however, stain poorly and with difficulty, whereby a differential count is rendered troublesome. This unpleasant feature can be obviated by adding to the cerebro-spinal fluid some serum or egg albumin. The leucocytes then stain quite as well as they do in blood preparations.

GUMMOUS MYOCARDITIS.—Tatuschescu (*Rev. stiin. med.,* 1906, Nos. 9, 10; abstr. in *Muench. med. Wochenschr.,* 1907, No. 12).—Myocardial gummata are not infrequently found at the autopsy table, though usually overlooked by the internist. Such patients receive no antisyphilitic treatment and the disease then invariably ends fatally. Sometimes, too, sudden syncope ends the patient's life before any cardiac lesion could have been made out. If an individual who has had syphilis presents symptoms of cardiac disease, such as asystole, hemoptysis, thrombosis and the like, the possibility of a cardiac gumma should not be forgotten and a rigid antisyphilitic treatment should be inaugurated.

THE DOSAGE OF TUBERCULIN FOR DIAGNOSTIC PURPOSES.—Loewenstein and Kaufmann, (*Zeitschr. f. Tuberk.,* 1906, No. 1).—As ordinarily used for diagnostic purposes, Koch's old tuberculin is injected in increasing doses of 1, 3 and 10 mg. This increase in dosage is not necessary

and only adds to the risk of the procedure. If the minimum dose is given repeatedly, say four times in ten to twelve days, a positive reaction will be obtained in the presence of tuberculosis.

The Prognostic Value of Ehrlich's Diazo-reaction in Pulmonary Tuberculosis.—Holmgren (*Ibid.*, No. 4).—In pulmonary tuberculosis a positive diazo-reaction is found only in the third stage of the disease, but may be absent even there. The more intense the reaction, the sooner death may be expected. If outspoken, the maximal duration of life will be six months, the average only two months. Practically, the reaction is a valuable aid to prognosis.

Mistaken Interpretation of a Physical Sign in Children.—Neumann (*Berl. klin. Wochenschr.*, 1907, No. 9).—A somewhat frequent occurrence in children is the presence over one of the pulmonary apices of impaired respiratory sounds accompanied by relative dullness on percussion, especially near the edge of the sternum. This finding is more frequent on the right than on the left side, and is usually interpreted as due to an incipient pulmonary tuberculosis. According to Neumann, however, this conclusion is false. The sign is due rather to the presence of swollen bronchial glands. The latter may or may not be tuberculous.

THERAPEUTICS.

IN CHARGE OF

WILLIAM ENGELBACH, M. D.

Salt Free Diet in Chronic Parenchymatous Nephritis.—Peabody (*Medical Record*, March, 9, 1907).—The author reviews the literature on this subject and gives a detailed history of seven cases which were first treated without a salt free diet according to recognized methods, without favorable results, but followed by favorable results with the salt free diet. Rumpf, during his investigations relative to the salt retention in nephritis found; (a) that in adults in many cases the salt content of the kidneys exceeded that of the blood and other organs; (b) in many cases the salt content of the blood and tissues was increased in amount beyond the normal; (c) the pericardial, pleural and peritoneal fluids showed no uniformity in their salt content; and (d) the peritoneal fluid in cases other than nephritis, often showed a high salt content. Widal considered the object of the treatment to be two-fold: (1) To free the system as much as possible from salt, and therefore from water. (2) When this is accomplished to bring about a balance between the salt in the body and the permeability of the kidneys for salt. He believes that the patient's food should contain only the natural amount of salt contained in the food, which is about 1½ grms. a day. The author's clinical experience accorded with Widal's. The edema and body weight diminished rapidly, especially when the patient was at rest in bed. In some cases the edema

did not entirely disappear, when diuretics were employed. The effect was marked in the parenchymatous variety of nephritis, the author having had little success in the interstitial type. Widal and Gaval, in discussing the rationale of the condition, called attenton to the inability of nephrtics to eliminate sodium chloride in a normal manner. The salt retained in the tissues required a certain amount of water to maintain it in the proper molecular concentration, thus leading to edema. In Bright's disease there was a marked retention of the chloride, but not of urea, phosphates or sulphates. They report a case of uremia with daily eliminations of 28 grms. of urea, but only 0.39 grms. of sodium chloride. For this reason they consider the chloride elimination the better index of the functionating power of the kidney than the excretion of the uera. They were able to make the edema appear and disappear by increasing or withdrawing the chloride. Bryant reported an interesting case of persistent edema of the feet in an otherwise healthy patient due to the excessive salt eating. The edema entirely disappeared on a salt free diet. Very favorable results are reported from this method of treatment in seven cases of marked edema which had failed to react to the ordinary treatment, when the salt was given with the diet. The author gives the detailed diet as used by him, in conjunction with medical treatment, as follows:

Breakfast—Coffee or tea, eggs, cereals, cream, fresh butter, fruits, bread made without salt.

10 A. M.—A glass of milk.

Dinner—Chicken, fish, potato variously prepared, bread made without salt, ice cream, jelly, fresh butter, cocoa.

3 P. M.—A glass of milk or water.

Supper—Eggs, chicken, bread without salt, jelly, custard, cream, fresh butter, tea.

8 P. M.—A glass of milk or water.

Prevention of Disease.—Field (*Medical Record,* March 9, 1907).—In writing on the general prophylactic treatment of disease the author adopts the following classification: (1) Those caused by animal parasites, and (2) those caused by bacteria. The animal parasites are divided into three separate classes: (a) The various parasitic insects, as fleas, bedbugs, pediculi and ticks, etc.: (b) helmints, as lumbricoides, ascarides, teniæ, ankylostoma, etc.; (c) protozoa, as the hematozoa of malaria, yellow fever, rabies, filariasis, trypanosoma, relapsing fever and probably smallpox. For the protozoon diseases efforts should be made, (1) toward preventing infection of mosquitoes and (2) toward the destruction of mosquitoes. Material most efficacious for their destruction is "culicide," (consisting of equal parts of camphor gum and crystalized carbolic acid, colored with methylene blue) volatilized by heat. The methods for the prevention of the various bacterial diseases are given as follows: First, the limitation and subsequent disinfection of personal contact with the patient; second, thorough disinfection of environment and excretion; third, inspection of food and water supply; fourth, the prevention and destruction of the diesase carriers, such as domestic animals, rats, flies and other insects; fifth, the elimination of other sources of conveyance, as

desiccated bacteria in dust, etc.; and sixth, the aseptic and antiseptic prevention of the entrance of pyogenic diseases through the skin.

Treatment of Arterio-Sclerosis.—Senator (*Die Therapie der Gegenwart,* March, 1907), says that the early changes of arterio-sclerosis are not demonstrable clinically, and that when this is possible the disease process is far advanced. One cannot depend upon an increased blood pressure as an early sign, this depending upon the condition of the heart. He gives the indication to be met in arterio-sclerosis as follows: (1) Removal of the cause; (2) modification of the process; (3) alleviation of the sysmptoms; (4) prevention of serious complication. Regarding the cause of arterio-sclerosis he says chronic intoxication and infection are the most important. While arterio-sclerosis is frequently accompanied by increased blood pressure, this condition alone does not produce changes in the arteries. It is often observed as a senile process with low blood pressure as well as in young persons, due to syphilis and chronic intoxications, such as alcohol, tobacco, lead, mercury, etc., without a preceding high blood pressure. He believes that strong coffee, tea, meat extracts, gout, diabetes mellitus, chronic nephritis, autointoxication produced by excessive meat eating, may all cause this condition. Consequently the first indication is to prevent these changes by eliminating, or reducing, controllable causes. A lacto-vegetarian diet made up in the largest part of carbohydrates and fats is very commendable. This diet, however, is not applicable to fleshy people, who are commonly afflicted, or when the condition is due to diabetes. The iodide preparations are recommended to lower the blood pressure. Iodipin (1 gram. gellatin capsule 3 to 4 times daily). Sagodin (0.5 gram. tablets 4 to 6 times daily) alone, or a combination of the nitrites with the iodides, are very effective. Sodium or potassium iodides 6 to 8 grams; sodium nitros, 1 to 2 grams; aqua. ad. 200. One teaspoonful t. i. d. in milk. Another preparation is tr. iodini, 1 gram., spir. ether. nitr., 30 grams; take 20 to 30 drops 3 to 4 times daily. Nitroglycerine .1, spir. ether. nitr., 30; 15 to 20 drops t. i. d. is also useful. Warm baths of the different mineral waters are recommended in the diffuse proceses. Massage and passive gymnastics must be given with great care. "Truneceks serum," "anti-sklerosin" or "Regenerol," depending for their action upon an addition of the normal salts of the blood, which are supposed to be absent in this condition, he says, have not been established as especially beneficial. He admits, however, their harmlessness and advises their trial. For the symptomatic treatment of the severe colics and cramps caused by this condition morphine is considered the best agent.

The Abortive Treatment of Pneumonia.—Curtis (*Medical Record,* March 15, 1907).—In this article the author reports phenomenal success in his experience in treating pneumonia with an ozone-producing electric current. Out of over sixty cases of pneumonia taken as they came, covering all degrees of severity, he obtained complete recovery in every case with the aid of this treatment. Besides its curative effect he maintains that "by the proper application of ozonation, pneumonia can be aborted

at any stage, resolution becoming established within forty-eight hours from the beginning of treatment."

He uses this method in conjunction with other treatment, but asserts that it has a specific action upon the cause and pathological condition of the disease.

The Use of Arsenic Inhalations.—Sænger (*Therapeutische Monatshefte,* March, 1907).—The author quotes Stemmer, Heermann and Hartl as authority to prove that arsenic, when used in an aqueous solution by inhalation, really reaches the smaller bronchi and vesicles of the lung. This statement, although contradicted by investigations of other men, he thinks, has been verified by his own experiments and by those of Emmerich. Previous investigators, he claims, used arsenic in the dry form and consequently were not able to find it beyond the upper passages of the respiratory tract. The fact being proven that arsenic can be applied (in the form of an aqueous solution by means of a nebulizer) to the finer ramifications of the respiratory tract, leads him to prophesy that this form of medication will be of value in lung diseases.

Prescriptions.

The Tuberculin Preparation of Koch. The tuberculin preparations are being placed more and more into practical use, as is attested from published reports in the current literature. The following abstract (taken from *Modern Medicinal Preparations*), gives the technique of giving Koch's tuberculin as a diagnostic and therapeutic agent. There are three preparations on the market: Tuberculin "Koch;" Tuberculin New "Koch;" Tuberculin New Koch Bacilli Emulsion.

Directions and Dosage for the Use of Tuberculin Koch as a Diagnostic Agent: The apparatus needed is a hypodermic syringe, a pipette of 1 cc graduated to one-hundredths, and Tuberculin Koch. Method of injection: The morning and evening temperature of the patient is taken for two or three days in order that any variation in the course is known. Patients that run more than one-half degree C of temperature are not good subjects. (The temperature is frequently controlled previous to injection by keeping a patient absolutely at rest). Pipette being clean and dry, the tuberculin is drawn up into it to the required mark. This is allowed to run out into a sterilized dish. The pipette is now washed with sufficient distilled water to make the desired percentage solution, and this water is mixed with the tuberculin in the dish. The whole is drawn into the hypodermic syringe and injected into the intra-scapula region of the back.

Dose: All clinicians, with few exceptions, use one of the three following methods: (A) Repeated increasing minimum doses. The initial dose .0005 to .001 c.cm.; (1) .002 cm.; (2) .004 to .005 c.cm.; (3) .1 c.cm. Following the injection the temperature is taken every two hours for six hours, and thereafter every hour for twelve hours. The injections are given with intervals of three to seven days, and the individual is said to react positively when he develops within twelve hours following the in-

jection a rise of temperature of 1½ degree, to two degrees C. (2.7 degrees to 3.6 degrees F.), or more above the mean course of the temperature previous to the injection. Constitutional symptoms arising are not distinctive features of the reaction. Patients reacting to any one of the previously stated injections are considered tubercular. This method is used by Martin and Robbins, Malm, Denison, Trudeau, Taylor, Otis, Kassel and others.

(B) Repeated injections of larger doses at stated intervals. Initial dose of .005 c.cm.; second dose .01 c.cm.; third dose .025 c.cm. Whitaker and Maragliano use this method. (C) A single injection of a large dose of tuberculin; .005 to .01 cm., White, von Yaksch and Head pursue this plan.

Tuberculin Koch in the Treatment of Tuberculosis: The maximum dose for an adult should be for the first injection .001 ccm.; to children ½ to .1 of this dose. This should be increased by .001 ccm. until .005 ccm. is reached, when it can be increased by .002 ccm. After .01 ccm. is reached a more rapid increase is permissible acccording to the nature of the case. As a rule the dose of 1 ccm. (between 1½ m. and 1¾ m. should not be exceeded). (At the present time the only satisfactory means of controlling the size and rapidity of increasing the dose is the opsonic index. Tuberculin should only be given when the opsonic index is high, or during the positive phase, and if given during the negative phase when the index is low it may do great harm. For this reason it is now considered absolutely necessary to control these injections accurately with the tuberculo opsonic index.—EDITOR.) Technique: 5 per cent carbolic acid solution is generally employed as a dilutent. A 10 per cent. solution is first made by adding 9 cc. of the carbolic acid solution of 1 cc. of tuberculin. This is kept in a dry, cold place, and used as required for the greater dilution. If the solutions assume a turbid color they should no longer be used. The injection should be made as early in the day as possible. The temperature is taken every three hours after this. If the temperature rises above 101 F. (or 38 C.) the following dose should at least be not increased or be a smaller one until the temperature does not rise for several days. The injection should not be repeated until the symptoms of reaction cease to manifest themselves. Particular care is applied in advanced pulmonary tuberculosis, laryngeal tuberculosis, extensive faucial tuberculosis, intestinal tuberculosis, cerebral tuberculosis, as well as tuberculosis complicated by other diseases. Hemoptysis is a contra-indication.

Tuberculin New "Koch) (Tuberculin TR.) The original fluid contains 10 mgm. solids to each ccm. The initial dose is 1-500 mgm. (.002 mgm.) of solid substance. If the reaction follows its use this dose must be diminished. As a rule 20 mgms. of solid matter would constitute the maximum for injection, and if no reaction follows the injection must cease or be repeated at long intervals. A local reaction not uncommonly sets in, which should subside in 24 hours. Injections are made about every second day with slow increase in the dose, so that higher elevations

of temperature than ½ degree C. are avoided. All symptoms should subside before the next injection. Technique: Diluting fluid consists of 20 per cent solution of glycerine water, prepared as follows: 20 ccm. pure glycerine is boiled for fifteen minutes with 80 ccm. distilled water. A 1 cc. pipette divided into ten parts is used. .3 cm. of the original fluid is taken. To this 2.7 ccm. of 20 per cent glycerine water is added. This dilution of 3 ccm. then contains 3 mgm. solid matter, and the total dilution of active matter is 10 per cent. From this 10 per cent dilution .1 ccm. is mixed with 9.9 ccm. of glycerine water, making a 1 to 1/000 dilution of the original substance. Of this final dilution .2 ccm. equals .002 mgm. equals 1/500 mgm. solid matter.

Koch's Bacilli Emulsion (New Tuberculin "Koch"—Bacilli Emulsion): This is a suspension of pulverized tubercle bacilli in water, to which an equal quantity of glycerine has been added. Each ccm. contains 5 mgs., of pulverized tubercle bacilli. The initial dose is .0025 mgms. of the bacillary substance, or 1/2000 part of 1 cc. of the preparation. At intervals of one or two days the dose is very rapidly increased to twice to five times the quantity previously injected, until a very distinct reaction, with a rise of 1½ to 2 degrees C. (2.7 to 3.6 F.) in the temperature appears. Then the injections are spaced over longer intervals, six to eight days or more. Twenty mgms. is considered a maximum does for larger quantities are not readily absorbed, and this large dose is only given at intervals of two to four weeks. Technique: The dilution is made with .8 per cent sodium chloride, to which .5 per cent phenol solution is added, if it is to be preserved for some time. .1 cc. is taken from the original bottle, with a 1 cc. pipette, divided into 100 equal parts, and added to 9.9 cc. of the .8 per cent sodium chloride solution. This one hundred fold dilution contains .05 mgms. bacillar in one cc. Of this 100 fold dilution 1 cc. is mixed with 9 cc. of the 8 per cent sodium chloride solution. This 1000 fold dilution contains .5 cc., or .0025 mgm. bacillary substance, the above mentioned initial dose.

SURGERY.

IN CHARGE OF

MALVERN B. CLOPTON, M. D.

THE SURGICAL TREATMENT OF SPLANCHNOPTOSIS.—Davis (*Trans. Western Surg. & Gyn. Assn.*, 1906, p. 55-65).—In the very nature of this trouble it is too much to expect that the operative treatment would give very brilliant results, and the author cautions not to attempt any operation until all that medical skill and mechanical aids can do, has been done. He finds that in some seventy cases reported all have been more or less benefited and even some cures are recorded. The first method described for treating gastroptosis was direct suture of the stomach to the abdominal wall (gastropexy of Duret) which was abandoned until revived

recently by Frederic Eve. The next operation was described by the author in which the gastro-hepatic and gastro-phrenic ligaments are sutured to the abdominal wall. Beyea shortened these same ligaments, and Coffey suspended the stomach in a hammock made by suturing the omentum to the abdominal wall. The abdominal wall has also been resected, or a diastasia of the recti sutured to lessen the abdominal capacity. The author claims for his method that it is easier to do than to shorten the ligaments, that it fixes the stomach more thoroughly when it swings from the anterior abdominal wall, and if a hepatopexy is to be done it is well not to have the extra weight of the stomach and colon hang to it. He has in seven cases swung the stomach by its smaller omentum high on the abdominal wall, and has had good results. Twice he has done the Beyea operation. Gastroplication, he holds of little value. For prolapse of the liver he believes that shortening the suspensory and round ligaments is the preferable operation. Enteroptosis must not be overlooked and in three cases he has had to shorten the mesentery of the small gut as well as fix the stomach.

Perforation in Typhoid Fever.—McPhedran (*Montreal M. J.*, March, 1907).—In moderate cases in which the patient's perceptions are sufficiently clear to appreciate anything that causes discomfort (by far the largest class of cases met with in the author's experience), pain is the one symptom that may be said to be never absent; it may be only slight, but whether severe or slight it is, with very rare exceptions, persistent, and, therefore, not due to functional disturbance; other symptoms usually follow, but more gradually. Of these, abdominal tension, localized or general, is the most common and important. Of 240 cases of typhoid in the Toronto General Hospital in the last two years, five cases perforated. There were twenty-five fatal cases of typhoid, the perforations making twenty per cent of this number. One case was an ambulant typhoid that perforated in the third week without giving any marked symptoms except slight pain. In another case the operation was done before the slough had separated, and the opening in the gut closed. Two days later pain and vomiting reappeared and it was thought there was an infection of the sutures, but when the patient died two days later it was seen that two new ulcers had perforated and caused the fatal peritonitis.

Observations on Experimental Abdominal Incisions.—Murphy (*Boston M. & S. J.*, March 7, 1907).—Suture in layers gave universally a more satisfactory and stronger looking wound histologically. The strong connective tissue derived from the fascia on the one side blended with a like layer on the opposite side, giving a dense scar, which, at two weeks, was, from histological appearances, as strong or stronger than the new tissue arising from the inter-muscular bundles at four weeks. Relative to the overlapping of the fascia it was shown that these layers preserve their identity at the end of four weeks. It was also shown that incisions transverse to the directions of the muscle fibers healed as satisfactorily as the wounds in the direction of the fibers, if the fascias were correctly sutured

and the muscle ends approximated with a suture. Suture in layers is better than the *en masse* method, because the strong fibrillar tissue arises by proliferation from the united fascia, increasing the strength and decreasing the time necessary for repair. The best suture is to join the fascia in layers and then add a deep supporting stitch. Traumatism of the edges of the wound leads to degeneration of the muscle and its replacement by weak connective tissue, so as much care in handling the wound should be used as when handling the intestines.

The Diagnosis and Therapy of Subdural Hematoma.—Kroenlein (*Archiv. f. Klin. Chir.*, Bd. 81, Th. 1).—While the clinical picture and treatment of epidural hemorrhage of traumatic origin is fairly well understood, it is generally agreed that the symptoms, diagnosis, prognosis and treatment of subdural hematomas is still little understood, because of the limited number of cases available for study. Kroenlein reports the case of a man, 27 years old, who fell a few feet from a ladder, striking his head, and immediately developed a severe headache which persisted as the only symptom. He continued at his work for several days, but on the fifth day remained at home and on the sixth day he had an epileptic fit. On the seventh day, when he was examined, there was no evidence of a fracture of the skull. There was slight mental obtundity, and eight times the patient had a Jacksonian fit, beginning by drawing the head to the left side, then the left half of the face twitched, the left arm and leg becoming involved in order. The next day the sensorium became duller, the patient hardly responding when spoken to; no vomiting, no paralysis, but pulse had dropped from 84 to 52 in twenty-four hours. In the next forty-eight hours the stupor deepened and the dijecta passed spontaneously. On the tenth day the stupor became very deep, pulse 48, and the diagnosis lay between a contusion of the brain and a subdural hemorrhage in the right motor area of the arm and leg. In all points it differed from an epidural hemorrhage from the middle meningeal, the author never having seen Jacksonian epilepsy develop so soon after an injury, and especially where there was a "free interval." The diagnosis of subdural hemorrhage was considered more certain when on the following day the pupils, which had been equal, showed a greater dilatation in the right, and the opthalmoscope showed nothing abnormal. With a Doyen "Kugelfraise" and rongeur an opening the size of a dollar was made in the skull, over the arm and leg centre, and on opening the dura about 60 c.m. of dark blood and coagula were removed, followed by no fresh bleeding. The skull showed no fracture. The wound was drained. The next day the patient was clear mentally, pulse had reached 84, pupils equal. The second day the drain became clogged and the patient had a slight epileptic fit, but from that time on the improvement continued, and the patient remained well after discharge from the hospital.

End to End Arteriovenous Angeiorrhapy.—Howard Lilienthal (*An. Surg.*, January, 1907).—In cases of impending gangrene of the extremity due to embolism, or thrombosed aneurism, or after traumatic destruction of the artery or malignant involvement of it, or in arterosclero-

sis, the author thought he might avert the trouble by transplanting the artery into the vein at a point above the occlusion. This was tried in one case, a youth of 20 years, where the occlusion was slowly developing, ulcers having appeared on the foot, arteries of the foot showing no pulsation. The vessels were exposed in the popliteal region and the artery found occluded at this level, so in a few days the vessels were exposed at Scarpa's triangle and the artery transplanted into the vein. There was a partial flow through the vessel, but the patient died of shock thirty-one hours after the operation.

ORTHOPEDIC SURGERY.

IN CHARGE OF

NATHANIEL ALLISON, M. D.

A CASE OF SCOLIOSIS CAUSED BY INJURY OF ABDOMINAL MUSCLES.—Ryerson (*Amer. Jour. Orth. Surg.*, Jan., 1907).—The case reported shows clearly that the lack of balance of the abdominal muscles, as suggested by Reily and Taylor, may be a cause of scoliosis. The patient, a boy of 16, suffered a penetrating abdominal wound, which was sutured, and from which he made a complete recovery. One year after his accident, it was noticed that his back was crooked, and one shoulder was higher than the other. On examination, he presented a very marked right dorsal scoliosis, with a high degree of rotation.

The author believes that the abdominal etiology is very suggestive, as a factor in the causation of this deformity. He concludes that the chief offenders are the transversalis and internal oblique muscles, as the incision and scar in the abdomen are parallel to the fibers of the external oblique.

POTT'S DISEASE.—Reily (*Amer. Jour. Orth. Surg.*, Jan., 1907).—The author points out the following important factors to be noted during the progress and treatment of a case of Pott's disease. The forward tilting and projecting of the pelvis through the medium of the abdominal muscles, fascia and ribs, is important in the production of deformity. It should be restored to its normal attitude, to prevent pain, paralysis and deformity. In cases of Pott's disease in the dorsal region, the increased compensatory curves must be reduced to enable us to hyperextend the spine, in either of those regions. The characteristic symptoms and comparative frequency of Pott's disease in the adult should be borne constantly in mind. An adjustable head-support should be used in connection with braces or apparatus for the treatment of high dorsal Pott's disease.

A METHOD OF REDUCTION OF CONGENITAL LUXATION OF THE HIP BY MANIPULATION.—Davis (*Amer. Jour. Orth. Surg.*, Jan., 1907).—The author recommends that the child be placed face downward on the table.

with the pelvis resting on a sand-pillow, the leg hanging over the side of the table. An assistant grasps the knee, flexes and abducts the limb; the surgeon places his hands over the head and trochanter and presses downward. This avoids the unnecessary force and consequent danger experienced in the Lorenz technique.

Injury and Deformity of the Epiphysis of the Head of the Femur: Coxa vara.—Cheyne (*The Lancet,* Feb. 16, 1907).—During the last three years, the author has collected particulars of 62 cases of coxa-vara, and has examined many museum specimens of this deformity, deciding as a result that more than one anatomical class of the deformity is included under the general head, and that, in a majority of the cases, the origin of the deformity is connected with the mode of growth of the neck of the femur. Sinch 1894, an enormous literature on the subject of coxavara has arisen, especially in Germany, and the different varieties of the deformity have gradually been sorted out. These varieties are: (1) congenital, which is a depression of the femoral neck, as a rule not evidenced until the child commences to walk, and is consequently extremely difficult to prove as truly congenital. However, occasional congenital imperfections of the upper epiphysis of the femur do occur, and a few clear cases have been recorded, usually associated with other defects of the limb, of a congenital origin. (2) Infantile, occurring in children before the adolescent period, and presenting distinctive features, due to an accident either before or at the time of birth, due to rickets, with incident softening of bone and defective ossification. (3) Adolescent coxavara, which has its onset, as a rule, between the ages of 13 and 17, the patient having, in many instances, an indefinite history of pain and stiffness in the hip, of several weeks' or months' duration, and typical deformity at the time of examination. Trauma plays an important part as an etiological factor, in a considerable portion of these cases. The deformity is of progressive character, and is almost always accompanied by a period of time during which the movements of the hip-joint are almost, or quite, abolished. (4) The result of known diseases causing softening of the bone, such as rickets, osteitis deformans and osteomalacia. (5) The result of acute or chronic inflammatory processes, such as tuberculous disease and epiphysitis. (6) Osteoarthritis. (7) Traumatism, with resulting union of fragments in a position wherein the angle of the femoral neck and shaft approaches a right angle. These traumatisms may consist of separation of epiphyses, or fracture of the femoral neck. Malgaigne collected 14 cases of intracapsular fracture before the age of fifty years, and Tubby has recently reported 14 cases of separation of the epiphysis. During the last 10 years, injuries to the femoral neck have attracted considerable attention. Poland collected 33 cases, Whitman has reported a number, as have Sprengel, Braumann and Kocher. In 1903, Hoffa tabulated 87 cases of injury to the femoral neck, of which he considered all but four to be separations of the epiphysis. Kirmisson, in the following year, drew special attention to the possibility of this accident following slight violence, particularly muscular violence. Remembering the pathological anatomy of the affection,

the treatment falls under three heads; preventive treatment, treatment during the progress of deformity and treatment aiming at correction of the deformity. The first two have been greatly neglected. The author includes under preventive treatment a much more careful examination of all hip injuries in childhood and adolescence, and especially insists on radiography as an aid in doubtful cases. During the stage of progress of the deformity, abduction of necessity must be secured, and the limb must be fixed in an abducted position, for a sufficient time for consolidation to occur. Correction of deformity aims at overcoming the adduction and eversion, which is best accomplished by subtrachanteric osteotomy. Excision of the hip is never required.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. Mc C. Johnson, M. D.

Comparative Results Between Suprapubic and Perineal Prostatectomy.—Pousson (*Ann. des Mal. des Org. Urin.*, Feb. 15, 1907).—The discussion which has for a long time been going on as to the perineal and suprapubic method of operating for stone in the bladder, has been renewed in the case of prostatectomy. The author, after having been a warm partisan for the perineal route, has now turned to the suprapubic method with added zeal. This change of opinion has come after a personal experience with fifty cases, twenty-eight of which were done by the perineal and twenty-two by the suprapubic method, the former giving an operative mortality of 10.7 per cent, and the latter a mortality of 13.6 per cent. While the death rate by the perineal route is slightly less, yet other reasons cause the author to give preference to the suprapubic method.

In the first place the anatomic simplicity of the region traversed by the high method overbalances the complexity of that by the lower route. By the hypogastric, the cul-de-sac of the peritoneum is the only obstacle to be avoided, which is made much more easy by the Trendelenburg position. In the perineum, the bulb of the urethra and the rectum are to be avoided, the author having opened the rectum twice in his twenty-eight cases.

Again, the great facility with which the gland may be enucleated suprapubically is a second good reason for preferring it. By the perineal route this enucleation is slow and laborious. The most frequent obstacle to regular extirpation of the gland through the perineum is the extreme thickening of this region in the obese. True, in these cases the same difficulty is encountered suprapubically, but may be overcome by making a long cuticular and subcuticular incision, when even the whole hand may be put into the bladder. Postoperative hemorrhage is more likely to be encountered upon operating by the suprapubic method than by the perineal, but by making a large opening in the bladder and employing an electric light for illumination, the hemorrhage may be controlled through

thermocautery, ligature, or tamponade. While the perineal route is considered to offer the best drainage, preventing stagnation of urine and infection, yet by the use of a large drainage tube the bladder may be thoroughly drained suprapubically. In the author's experience the suprapubic wound has healed quicker than the perineal. As in some cases he has had a recurrence of residual urine—as much as 500 grammes in one case—as he regards this due to the growth of a portion of the prostate left behind at the time of operation; and as the suprapubic method affords better facilities for removing the whole gland under sight, he considers this a great advantage. The Trendelenburg position, the long incision in the bladder and electric illumination, are points in the technic which appeal to him as of great importance.

The Diagnosis of Blennorrhagia in the Incubative Period by Culture.—Griffon (*Ann. des Mal. des Org. Urin.*, Feb. 15, 1907).—The need of a very early diagnosis of urethral gonorrhea is self-evident; for it is in the beginning of the infection that our abortive remedies are most effective. Before the purulent stage of the discharge, the microscope gives very uncertain results in the way of diagnosis, so that we are often at a loss for a positive diagnosis in the first days after intercourse. The author has thought it worth while to popularize a laboratory method that has enabled him to assure himself within sixteen hours if the urethral mucosa has been contaminated at the time of a suspected intercourse. The method consists in placing a trace of the "urethral humidity" upon a culture tube and the rapid appearance of colonies upon the culture medium in case of positive result. He gives in detail his method of preparing the culture medium. This method has enabled him to affirm the diagnosis of gonorrhea in two or three days after the suspected intercourse.

Simple Ulcer of the Bladder.—Walker (*Jour. A. M. A.*, March 23rd, 1907).—The writer defines this condition as a single non-inflammatory ulcer located in the mucous membrane of the bladder, which occasionally penetrates the entire wall. He gives as its probable causes, local disturbance in, or complete blocking of, the terminal arteries, or an interference with the trophic nerves. Infection never produces it. In the early stages the cystoscope shows a simple ulcer which has a punched-out appearance, with clean, smoothly cut and slightly indurated edges. The remaining mucosa is normal. It is differentiated from a tuberculous ulcer by the regularity of its edges, the appearance of its base, the absence of undermining of the margins, of surrounding tubercles, and of tuberculosis in other organs. From the ulceration belonging to the various forms of cystitis, it can be differentiated only in the stage before the development of the inflammation. Also, when the bladder wall has become infiltrated and a calculus has probably formed, no diagnosis can be made as to the primary condition. In the early stages, irrigations of silver nitrate in the strength of 1-10,000 up to 1-500 every second day will usually effect a cure. If this does not succeed, the ulcer may be cauterized with the cauterizing cystoscope, or a suprapubic opening made and the ulcer curetted and cauterized with the Paquelin instrument. In

the second stage curetting and cauterization with prolonged drainage through a suprapubic opening are necessary to effect a cure. In the later stages, drainage, irrigation and gradual distension of the bladder are all that can be done. The change that has occurred in the bladder wall renders it very unlikely that complete healing will take place.

OBSTETRICS AND GYNECOLOGY.

IN CHARGE OF

HUGO EHRENFEST, M. D.

PREGNANCY AFTER LOSS OF ONE KIDNEY.—James Haig Ferguson (*Journ. of Obst. and Gyn. Brit. Emp.*, March, 1907).—In recent years, owing to the rapid advances of surgery, the operation of nephrectomy has become no uncommon procedure for various diseased conditions of the kidney. It follows that the obstetrician is now more often confronted with the question: Should a woman with but one kidney be advised to marry and run the risk of becoming a mother? Although the author himself had observed a patient "who, on the whole, had a less severe albuminuria and less toxic disturbance than many albuminuric primigravidæ, both of whose kidneys are known to be organically sound," he thinks that patients who possess only one kidney, though apparently healthy, should, if they marry at all, delay marriage until after the menopause. Of course, each case must be judged on its own merits. If a patient is willing to take the risk, she should be urged at least to delay marriage until three years after the nephrectomy, so as to give the remaining healthy kidney ample time for compensatory hypertrophy. If the remaining kidney were diseased, marriage, where there is any possibility of child-bearing, should be out of the question. Whenever a first pregnancy occurs in a patient with only one kidney, she should be most carefully watched, her urine being tested regularly. This same rule holds true also for women with one kidney functionless, e. g., in hydronephrosis, or where one kidney is diseased and the other healthy. The writer concludes his article with the report of a rather unusual case. The patient was 36 years old, nephrectomized several years ago. She developed an albuminuria, had a contracted pelvis, a placenta previa, and a cervical polypus. It became necessary to interrupt the pregnancy, perform craniotomy, and remove manually the adherent placenta. Puerperium was uneventful. The albumen disappeared gradually and the patient was discharged well on the twelfth day after labor.

TERTIARY SYPHILITIC METRORRHAGIA.—E. Ozenne, (*Jour. de Med. de Paris*, rev. *Am. Jl. of Obst.*, April, 1907).—As the result of the observation of five cases of metrorrhagia due to syphilis in the tertiary stage, cured by mercurial inunctions and iodide of potash internally, after all other means of treatment had failed, the writer believes that there is a definite form of syphilitic infection of a tertiary nature, that results in

obstinate metrorrhagia. This is due to late sclerotic changes in the arteries. There may be a syphilitic ulceration of the cervix, leukoplasia of the cervix, total or partial uterine sclerosis, with either atrophy or hypertrophy, gumma of the uterine body, intrauterine fungosities, or, as in the cases reported by the author, a simple arterial degeneration of the uterus resulting in hemorrhage without any inflammation of the endometrium.

Can the Physician Attest to the Virginity of a Woman?—Felice la Torre (*Gynaekol. Rundschau.*, No. 6, 1907).—The writer concludes his interesting article with the following statements: Virginity is more a moral-psychologic than an anatomic condition. The physician, therefore, must limit his statements solely to the condition of the hymen; he can positively attest only to defloration; never to existing virginity. In some of these cases the hymen is found in such condition that positive assurance can be given that an immission has not taken place. But in many cases the form of the hymen is such that the immission would be possible without a resulting laceration. In these cases the physician is unable to testify either for or against existing virginity.

Sclerosis of Uterine and Ovarian Vessels During Pregnancy, Menstruation and Ovulation.—Pankow (*Arch. fuer Gynaek.*, Bd. 80, H. 2).—In view of the interest recently aroused in the question of the etiologic significance of sclerotic changes of uterine vessels in the causation of metrorrhagia, this paper is of far-reaching importance. In examining 55 uteri, Pankow ascertained that sclerotic changes in the smaller vessels of the endometrium, mesometrium and in the ovaries, occur physiologically. The uteri of women who have borne children show an increase of the elastic tissue in the media of the vessel walls. These changes are not dependent upon age, since they are also found in young women. This sclerosis is most pronounced in the inner half of the uterine wall. A very similar condition is seen in endometrial arteries of virgins after menstruation. The main histologic difference between this form of sclerosis and true arteriosclerosis lies in the fact that in the latter condition also the larger vessels are affected.

An Unusual Case of Extrauterine Pregnancy.—Lassaud and Wertheim (*Zentralbl. f. Gyn.*, No. 9, 1907).—This case seems noteworthy on account of the difficulty of diagnosis. The patient's abdomen contained a large amount of free fluid. Ten liters of a serous sanguinolent fluid were withdrawn. To the left of the uterus a hard, round, elastic tumor was felt, slightly movable and very tender to pressure. The diagnosis of a malignant ovarian tumor seemed justified. Therefore laparotomy was decided upon. On microscopic examination the removed tumor was found to be a pregnant tube. No explanation can be given for the presence of the ascites, a most uncommon occurrence in cases of ectopic pregnancy. The writers refer to a similar observation made by Moszkowicz. In this case, however, it was ascertained during the operation, that the patient had a tuberculous peritonitis.

Artificial Sterilization of Women.—Offergeld (*Zeitschr. f. Geb. u. Gyn.* Bd. 59, H. 1).—By means of experiments on animals the writer succeeded in proving that the so-called "intestinal method" of Friedmann also is unreliable and does not give absolute guarantee against re-establishment of a patulous tube. Friedmann compressed the tube with an enterotriptor (a small angiotribe), and placed a catgut suture in the resulting groove. In the opinion of Offergeld the only reliable method of artificial sterilization is still the complete resection of the tubes from the uterine wall in the form of a wedge, with careful closing of the wound and of the covering peritoneum.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Enterocolitis and Appendicitis in Childhood.—Roy (*These de Paris,* 1906) says that among children with muco-membranous enteritis a goodly number suffers from appendicitis. It is, however, difficult or even impossible to recognize the exact time at which the appendix becomes affected, because the clinical reaction occurs much later than the anatomical lesions. In these children appendicitis shows itself in all its forms, larval or latent, chronic or acute, or peracute with generalized peritonitis. In many cases the origin of the muco-membranous enterocolitis in childhood is to be found in adenoid vegetations, either already removed or still present. These adenoids are the source of an intermittent oral infection which creates digestive disturbances of various kinds, thus preparing the way for the interocolitis. A child with such muco-membranous enterocolitis who has had one attack of appendicitis will probably have others at greater or less intervals. It is impossible to forecast the form which the appendicitis will take, although we know that in the child the grave forms are more frequent than in the adult. If in these children the appendicitis is latent or very mild, these children should be kept under close observation and medical regimen, so that operation may be performed at once if necessary. In the cases of acute appendicitis interval operation is recommended, without waiting for several attacks.

Cyclic Vomiting.—At a recent session of the Paris Pediatric Society, Comby reported a series of seventy-two cases of cyclic vomiting. (*Rev. Men. des Mal. de L'Enf.*, January, 1907.)—A familiar history was obtained in seven of these cases.. Thirty per cent had enterocolitis. Constipation, with or without enterocolitis was present in 80 per cent of the cases. In 25 per cent of the cases there had been symptoms of appendicitis which had necessitated operation in some of these cases. The attacks of vomiting did not, however, cease with the removal of the appendix in all of the operated cases. In the discussion which followed, Richardiere

insisted that under the name of cyclic vomiting different clinical entities are grouped. He believed that while appendicitis would explain some of these cases it cannot be the casual factor in all. In addition to appendiceal vomiting he holds that there is also a hepatic form and an enterocolitic form. Marfan held that in subjects predisposed to cyclic vomiting, almost anything may be the exciting cause of the attack. Thus the acute infections may cause attacks of this sort or even the eruption of the teeth. He did not believe that the relation of appendicitis and cyclic vomiting can be considered as very close.

Congenital Malaria.—Pezopoulos and Cardamatis (*Arch. de Med. des Enf.*, January, 1907), had the opportunity of studying six cases in which the mother at the time of confinement was suffering with malaria. In all of six cases the maternal blood showed the malarial parasite. In the blood of the newly-born in four cases, and of the foetus, in the two cases of abortion, (the examinations being made within a few hours after delivery) no malaria parasites were to be found. Neither were there any parasites in the blood of the liver or of the spleen in either foetus examined. In five cases the placental blood was carefully examined. In blood from the maternal surface of the placenta, parasites were abundant, no parasites of this sort being found on the fœtal surface. Neither were any parasites found in the blood of the umbilical cord.

Acute Lobar Pneumonia in Childhood.—Hayem (*These de Paris*, 1906), studied fifty-one cases of lobar pneumonia in childhood(all terminating in recovery). From these studies the author concludes that lobar pneumonia in childhood is like that in the adult. Diagnosis is, however, often difficult, owing to two factors: First, the late appearance of the physical signs, the pneumonia being central and not coming to the surface until near the end of the attack. Second, the predominance of the nervous phenomena. The prognosis is favorable, and there is no occasion for very active medication. Attention to the general hygiene and expectant treatment will be sufficient. The employment of drugs is not indicated except in grave, or complicated cases.

Concerning the Development of Eclampic Infants in Later Childhood.—Thiemich and Birk (*Jahrb. f. Kinderheilk.*, Jan. and Feb., 1907).—As the result of their study of the literature and of a series of personal investigations, the authors have reached the following conclusions concerning eclampsia in early childhood.

Up to the present time pathological anatomy has not afforded any basis for the definite explanation of eclampsia. For the present we must consider it a functional disorder in view of the absence of organic changes. Eclamptic nurslings show themselves in most cases as abnormal individuals in later childhood. The duration of the disease, the number of attacks, and of the relapses do not stand in casual relation to the later abnormality. It would appear from the studies of the authors that heredity plays a most important role in this condition. Comparing eclampsia with epilepsy it would appear that while in epilepsy heredity plays an important role also, the epileptic ascendency is not of etiological

importance with reference to eclampsia. With reference to the direct heredity it would appear that neuropathy in its various forms is an important factor, and it would therefore seem possible to explain eclampsia on the basis of an intrauterine brain lesion.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

DEMENTIA PRAECOX.—Macpherson (*Rev. Neurology Psych.*, March, 1907).—In this article the author attempts to lay before the reader a concise account of the present position of dementia præcox. In this attempt he has succeeded so well that a more than usually extended abstract will be given in order to place the question clearly before the readers of this journal. In the first place the term itself has aroused a good deal of objection on the ground that dementia in its English significance, connotes an incurable state and a certain per cent. of these cases do get well. We should remember that Kraepelin who introduced the study of this disease to the medical world and has done more than anyone else to further its expansion, is a German and the term dementia in German is "Bloodsinn," which has none of the suggestion of incurability that dementia carries. The author calls attention to the fact that if we were less inclined to quarrel with terms and more inclined to study the actual literature of the disease, especially from the papers of Kraepelin himself, we would be in a better position to understand the disease than we are. The clinical entity, dementia præcox embraces three subforms: Hebephrenia, katatonia, and dementia paranoides. If it is found that this is a real clinical entity, then the most important advance in recent psychiatry has been achieved. There are certain features that are peculiar to all three forms. These may be termed basic symptoms. 1. Stupid listlessness, with a perfect knowledge of surroundings. 2. The sensory sphere is liable to grave implications which often commence with dream perceptions. Hallucinations of the senses occasionally accompany the whole course of the disease. 3. The consciousness of the patient remains as a rule perfectly clear. 4. Memory is proportionately but little disturbed. 5. Sooner or later the thought processes of the patient undergo deterioration. 6. The judgment of the patients is almost always affected. 7. Inasmuch as they are unable to realize fully that it is they themselves and not their surroundings which are affected, delusions of a fleeting or lasting nature are apt to arise. In the early stages of the disease the delusions are sad or hypochondriacal. Later grandiose ideas begin to appear which may gradually become dominant. As a general rule owing to the rapidly developing mental weakness, all forms of delusions exhibit a nonsensical, quixotic stamp. The tendency is for all the delusions, even those that are of a fixed sort found in the paranoid form to finally disappear. 8. The mental disposition undergoes marked change. 9. The behavior of the patients adds importantly

to the clinical picture. They loose all power of initiative and neglect their work and their obligations. Along with this loss of initiative there is displayed passing or lasting impulses toward suicide. 10. To the affection of the will power coupled with the prevalence of automatic impulses is attributed that peculiar negativity which manifests itself as an obstinate opposition to every change of position to taking food, putting on clothes, etc. 11. The working capacity of the patient is without exception lowered and may be seriously affected. In addition to these mental symptoms there are a number of bodily symptoms which are commonly met with, but in themselves are not especially characteristic. These symptoms refer to the bodily functions, weight, sleep, heart action, etc. Kraepelin defines the three subdivisions of dementia præcox in this way. By hebephrenia is meant all those forms of dementia præcox in which a uniform more or less profound condition of mental weakness is developed under the accompanying influence of subacute more seldom of acute mental disturbances. Katatonia is essentially a peculiar disease process progressing through stupor or excitement to a condition of dementia with intercurrent symptoms of negativism, stereotypism and autosuggestibility in the spheres of action and work. Dementia paranoides includes a group of cases in which delusions and hallucinations are produced in an otherwise clear mind throughout many years of a steadily advancing mental weakness. That these divisions are largely artificial is admitted by Kraepelin. There can be no rigid line of demarcation between them, because the cases run into each other and overlap continuously. The author in concluding summarises Kraepelin's service to psychiatry somewhat in this fashion: Kraepelin has furnished thoughtful physicians with a means of expressing to one another empirical impressions in regard to a certain group of cases which before this was relegated to an indefinite series according to each man's individual idea. Out of a group of indefinite cases Kraepelin selects some about fifteen per cent. of the admissions to his clinic and predicates certain things about them. These patients were previously unattached; they now belong to a pretty well defined group which has become a definite object of study the world over. To this group the name of dementia præcox has been given. The name itself is not important, but the idea advanced is one of the most important advances in psychiatry. Kraepelin himself admits that his idea is only tentative except in the matter of diagnosis and prognosis, nevertheless leading alienists in both continents have accepted his presentation as a simple workable advance, the outcome of genius and of incalculable patient observation.

Hydrocephalus Complicating Epidemic Cerebro-Spinal Meningitis.—Koplik (*Am. Jl. Med. Scs.*, April, 1907).—In this paper Koplik draws attention to the fact that in certain cases of epidemic cerebro-spinal meningitis there occurs early in the disease a conditon of acute distension of the ventricles which can be diagnosed. An early recognition of the presence of this condition and the appropriate treatment directed to it, is a means, according to the author of saving the life of the patient. Lumbar puncture is of course the method of treatment to be resorted to. A number of cases are described in order to illustrate the

mode of onset and the clinical symptoms. The symptoms of acute distension of the ventricles are those of a suddenly developing increase of pressure in the cavities of the brain and in the meningeal spaces of the cord. The pulse becomes very rapid, irregular and weak, labored and sighing respiration, dilated pupils. Percussion of the skull shows a bilateral tympanitic note. After spinal puncture the conditions showed marked improvement. The author refers to two other varieties of hydrocephalus occurring in the course of cerbero-spinal meningitis; the first of these occurs in infants below two years of age. This form attacks the structures at the base of the brain in the posterior part of the skull. The second form occurs at any time in the course of the disease after the first two weeks. The patients are usually doing pretty well when they gradually become unconscious, vomiting takes place and an increase of rigidity and a slight increase in the tympanitic note. In conclusion the author gives the following as his position on the question of lumbar puncture in cerebro-spinal meningitis. It is important enough to quote in full: "I resort to lumbar puncture only in the outset of the disease, or in its course when I am convinced that there is an accumulation of fluid in the ventricles; unless the signs which I have detailed in this paper are present, irrespective of headache, delirium or high temperature, I do not puncture. I feel that such cases are not benefited by puncture, although I have punctured many simply to convince myself that everything available in human knowledge has been offered to the patient."

The Limitation of the Term Hysteria. With a Consideration of the Nature of Hysteria and Certain Allied Psychoses.—Dana (*Jl. of Abnor. Psychol.*, No. 6, 1907).—This is an attempt to consider all the data of hysteria for the purpose of determining in a general way just what is meant in a clinical sense by the term. A certain clinical group of symptoms can be very well and sharply characterized both by acedemic definition and clinical description. This paper is to be welcomed in view of the recent attempt on the part of Babinski and others to limit the use of the term hysteria to such cases as represent merely a group of symptoms which respond to certain therapeutic tests of a psychical nature. The aim of Dana's paper is to represent the clinical picture of hysteria as it comes to the physician, and this is practically always recognizable. It is rather a rare malady. It occurs in men as often as in women. Its characters are very striking, and its diagnosis is as free from any possibility of question as is a case of advanced tabes or general paralysis. We make this diagnosis, not from any knowledge of the disintegration of the person's personality, but because of the objective tests to which he reacts. We do not ask whether the excitation of his personality was endogenous, as in psychasthenia, or whether it was exogenous. We do not have to say a word about the patho-psychological state in teaching medical students how to recognize the malady. As an illustration of this contention the author gives a clinical description of a typical case of hysteria. In conclusion, the author gives this very suggestive classification of the psychoneuroses: 1. Hysteria proper or major. 2. Psychasthenia. 3. Psychasthenia with obsessions, doubts and fears

and impulsions, including some forms of dipsomania. 4. Neurasthenia simple and symptomatic. 5. Abortive types of the major psychoses, such as melancholia dementia. Hysterical episodes occur in all the psychoneuroses, and are simply the expression of the way the individual reacts, or may react, being, constitutionally, unstable.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

A SUCCESSFUL CASE OF TRANSPLANTATION OF THE CORNEA.—*Zirm (Graefe's Arch. f. Ophthalm.* LXIV 3).—This case deserves widespread recognition, as it is the first authentic instance in which the transparency of the transplanted corneal button has been maintained for several months. In this patient both corneæ had become entirely opaque following the entrance of unslaked lime into the eyes. Vision was reduced to "movement of hand." Zirm operated as follows: With a v. Hippel trephine a disk was removed from the periphery of a freshly enucleated child's eye, and transplanted to a gap in the leukomatous cornea. A bridge of conjunctiva was drawn across it and stitched over. This operation was not a success. At the same time another disk was removed from the centre of the cornea of the enucleated eye, immediately wrapped in gauze squeezed out of warm salt solution and kept moist and warm in a stream of aqueous vapor. A disk was then removed from the patient's other cornea and the corresponding piece of clear cornea inserted in its place, care being taken to touch it with no instrument from the beginning of the operation to the end. To retain the patch, which fitted perfectly, Zirm inserted two stitches in the conjunctiva, making a St. Andrew cross of thread over the centre of the flap. Eight months later the cornea itself was opaque, whitish and intersected superficially with branching vessels. The graft, however, had none of these and at its margin was sharply differentiated from the cornea by a tendinous looking ring. With the exception of two very short fine lines of opacity within the ring the graft was quite transparent. The eye could be examined with the ophthalmoscope and the disk inspected. Vision=5-20; with a convex lens 3-20, and J. 13. Zirm believes the following factors contributed to his success: 1. The graft was an exact fit for the place in which it was laid, and was not damaged by handling with forceps or other instruments. 2. The graft was taken from the eye of a healthy boy of 11 years. 3. The existence of superficial conjunctival vessels ramifying over the surface of the cornea tended to keep alive the superficial parts of the graft. In some future case, Zirm suggests that the actual operation might, with advantage, be preceded by such preparation as this: Some few weeks before operation, he would mark out the part to be excised from the flat scar by a light touch with the trephine, then he would "raw" all the surrounding area superficially right up to the limbus, and by means of stitches bring the loosened membrane right across the future gap. When the consequent irritation

had gone down, he would proceed to the actual operation confident that the above procedure had prepared the way and had provided the needed increase in superficial vascularity and in tissue metabolism which is a requisite of success.

Central Scotoma in Congenital Amblyopia and its Relation to Parturition.—Scrini and Fortin (*Arch. d'Ophtalm* November, 1906).—This paper is an effort to place the pathology of congenital squint and amblyopia on a scientific basis.

Congenital amblyopia is characterized by the absence of diplopia and of precise fixation and by a considerable diminution of visual acuity which is generally confined to the macular region. The presence of a central scotoma prevents the eye from fixing a small object precisely and the absence of fixation in an eye is presumptive evidence of the presence of a central scotoma. This scotoma varies much in size, is usually relative, but may be absolute. The deficiency of vision is not regulated by the extent of the scotoma. The authors found central scotoma in fifteen out of sixteen cases where vision was reduced below 1-10. There is strong presumptive evidence that the central scotoma in these cases is related to central retinal hemorrhages at birth. It has been shown that these hemorrhages are related to the duration, difficulty and complications of labor and delivery. They are never seen in the eyes of infants born prematurely, but are common in prolonged and difficult labor, especially when the circulation of blood in the head has been obstructed or forceps have been used. Scrini has found that concomitant convergent squint is more frequent among children of primiparæ than among those of multiparæ, and that the number of cases of strabismus is closely related to the duration and difficulty of labor and delivery.

Optico-ciliary Neurectomy.—Elliott (*Indian Medical Gazette*, November, 1906).—In the not rare instances when a patient declines to part with a useless and painful eye Elliott recommends optico-ciliary neurectomy. The two great difficulties are to catch the nerve and to deal with the hemorrhage which is often very considerable. For the avoidance of the first, he has devised a peculiar hook with a double curve which, after division of the internal rectus, is slipped alongside the globe and made to hitch upon the nerve. Scissors curved on the flat are passed along the convexity of the hook and the nerve divided on the proximal side. By means of the hook the globe can be rotated till the stump is visible, which is then cut short off close to the sclera. The hemorrhage, which is great, cannot well be avoided.

An Electric Heater for the Eye.—Hoffman (*Klin. Monatsch f. Augenh.*, October, 1906).—Hoffman describes a new form of electric heater, consisting of an asbestos plate of suitable form to fit the eye and which can be enclosed in a clean washable linen cover. In the circuit is introduced a dark blue resistance lamp by means of which the heat can be kept at the required standard.

LARYNGOLOGY AND OTOLOGY.

IN CHARGE OF

WM. E. SAUER, M. D.

THE RELATION OF THE TONSIL TO INFECTION AND INFECTIOUS DISEASES.—Brown (*Medical Record,* March 2, 1907.)—The author, in a lengthy article, calls attention to certain facts which show a close relationship between the tonsil and certain infectious diseases. He believes that the physiological function of the tonsil is to resist disease, dwelling at length on the Metchnikoff theory of phagocytosis, believing that a marked phagocytic reaction takes place in the tonsil when exposed to infection. He states that in scarlet fever we have many examples of phagocytic action in the tonsil; children exposed to scarlet fever develop tonsillitis, and their parents and nurses develop tonsillitis, but no seated scarlet fever. Rheumatism is so frequently preceded by tonsillitis that the author questions the possibility of there being a specific germ for rheumatism. German observers have produced symptoms of rheumatism in rabbits by inoculating them with the exudation of tonsillitis. In a series of 120 cases of tonsillitis treated by Kiefer, 60 were treated in the ordinary way, and 60 were treated by local applications of acetic salicylate. The first 60 were followed by nine cases of articular rheumatism, while the second 60 were not followed by a single case of rheumatism. Lacunar tonsillitis also occurs in measles, erysipelas, smallpox, plague, etc. His conclusions are: That the tonsil is anatomically admirably arranged to resist infection; that it is continually exposed to the action of pathogenic germs; that inflammation of the tonsil is caused by a pathogenic germ trying to enter, and the inflammation is a defensive reaction; that finally the relation of the tonsil to infection and infectious diseases is one of protection and the lacunar tonsillitis is an example of phagocytosis, and is a defensive reaction.

AURAL AFFECTIONS IN RELATION TO MENTAL DISTURBANCES.—Bryant (*N. Y. Med. Journal,* March 23, 1907).—With respect to mental affections, aural diseases are divided by the author into six categories: 1. Those cases which bear no relation to mental disturbances. In the psychically weak the auditory disturbances may be so mild that they have no bearing on the mental condition, while some mental states are apparently oblivous to peripheral stimuli. 2. Cases of aural diseases causing mental irritation and leading to psychical affections, the result of septic intoxication, or of pain, or of subjective and objective irritation of the hearing apparatus. These sensations furnish the base for imaginary sounds and give rise to hallucinations. 3. Disturbances of the ear which act as causes of general exhaustion and hasten the psychic symptoms. External sounds, and especially internal and subjective sounds are very troublesome, while earache is a pain which is peculiarly irritating to the mental functions, and the resulting exasperation and exhaustion may be extreme, leading to dementia and suicide. 4. Diseases of the ear which progress to loss of hearing, destroying the connection with the

outside world and thus upsetting the mental equilibrium. Sounds have more effect on our minds than sight, and the inability to relegate a subjective sound to its proper place allows it to affect the imagination and emphasize psychical defects. 5. Hallucinations of hearing, which are caused by the subjective sensation of a disturbed organ of hearing falling upon deranged higher centers. An important point to be noted is the prevalence of chronic middle ear catarrh, among patients of this kind. 6. Affections of the ear which are secondary to the mental disturbances. In certain forms of psychosis the vital functions are affected, reacting upon the entire organism, and disturbing the functions of the various organs. The author concludes by saying, that ear disease is much more prevalent among the insane than among the sane, having found it in 90 per cent of the insane examined.

A New Method of Operating upon Turbinal Hypertrophies with a Description of the Instruments and the Technic of the Intranasal Suture.—Yankauer (*Laryngoscope*, Feb., 1907).—In the author's method of operating upon turbinal hypertrophies, the principle is the same as in other operations; asepsis, suturing of the wound and healing by first intention, if possible. The author has, accordingly, devised and perfected a method of sewing up an intranasal wound, and has succeeded in demonstrating that primary union may be obtained in our operations upon the turbinal bodies, if we suture the wound after the excision of the hypertrophied parts. The operation consists of two stages: 1. The excision of the hypertrophied tissue. 2. The suture of the wound. After the use of cocaine and adrenalin, an incision is made with a knife above and another below the hypertrophy, the two incisions meeting at a sharp angle in front and behind. The included mass is then dissected out with elevators and scissors. Enough of the bone is then removed with punch forceps to bring the edges of the wound together. The edges of the wound are brought together with number O sterilized catgut, and the sutures are placed about one-fourth inch apart, beginning posteriorly and working forward. The nose is then packed with spunk, impregnated with aristol and allowed to remain forty-eight hours. For passing and tying the suture, three instruments, which the author has devised, are necessary; a needle with a curved point at right angles to the shank, for introducing the suture; a hook for pulling the suture through, and a suture-closer. Sometimes a crotch forceps for steadying the mucous membrane, is necessary. The author has tried this method a number of times and has been eminently successful; healing and the formation of mucous membrane is usually complete in one week.

The Importance of an Early Diagnosis of Malignancy of the Larynx.—Stein (*Transactions of the American Academy of Ophthalmology and Oto-Laryngology*, 1906.)—The author, in a lengthy article, dwells with emphasis upon the importance of an early diagnosis in malignancy of the larynx, and the necessity of an early radical removal; and also upon the method of operative procedure to be selected in a given case.

With regard to the early diagnosis, the author states that every case

of chronic hoarseness, especially if unaccompanied by cough, should be regarded as suspicious, and carefully watched. He says that on account of the frequency of hoarseness as a symptom of many varieties of laryngeal disease, its significance is liable to be disregarded until too late to do anything to save the patient's life. The hoarseness, the result of beginning maligancy, may result in one case from incomplete apposition of the vocal cords on phonation, owing to the situation of a neoplasm or infiltration along the margin; in another case, it may result from the infiltration, impeding the motion of the cords; in still another case, it may be due to the cord being robbed of its finer vibrations on account of the thickening; in any case, chronic hoarseness, for which no definite cause can be determined, should be placed under the closest surveillance and examined repeatedly. Infiltration, the author considers, a very important symptom in beginning maligancy, and though it may be too deep to be seen, pressure on nerves may cause a lagging on the part of the cord during phonation, and should arouse suspicion. If these cases of chronic hoarseness were more carefully watched, we would have to depend less upon the microscope, which is often misleading, due to insufficient removal of tissue, or incompetent examination of the same.

The author considers the external method of operation as being the preferable one, stating that it is impossible to remove sufficient tissue by the internal method, especially if the tissue originates from the interarytenoid space, the esophegeal side of the larynx, the epiglottis and the aryepiglottic fold.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

M. F. ENGMAN, M. D.

THE TREATMENT OF EPITHELIOMA OF THE SKIN.—Bizard (*Proges Medicale,* Feb. 9, 1907).—The writer defines epithelioma, a cutaneous cancroid, as the result of the proliferation of the epithelial tissues of the skin. He sums up the treatment under the following headings; Surgical, radio-therapeutic, treatment by cauterization, internal treatment and external treatment. He says that radio-therapy has the immense advantage of being easily applied, and is not painful, and the esthetic results are possibly more satisfactory. The cicatrix obtained is soft, supple and is the least visible. Especially around the angles and commissures of the face is the x-ray preferable. In other words, radio-therapy is the most elegant of all the methods of treatment. However, it is often dangerous, in that the dosage is not accurate. For the cautery treatment, he recommends the usual arsenical paste, applied in the usual manner.

THE CAUSE OF COMMON BALDNESS.—Parker (*Med. Record,* Feb. 23, 1907).—This report is a very unique investigation into the cause of common baldness. The writer divides the condition of baldness rather clumsily into several classes. He attributes the fundamental cause of common

baldness to a form of respiration that leaves residual air undisturbed in the air cavities of a portion of the lungs; or, to be more explicit, since the residual air of any portion of the lungs that is not made use of for breathing purposes must necessarily lie undisturbed, and since the function of respiration can be carried on without the upper portions of the lungs being utilized, but cannot be carried on without the lower portions being used, the fundamental cause of common baldness is absence of upper chest breathing. The connection between absence of upper chest breathing and the existence of baldness is explained in the following manner. In the first place, attention is directed to the circumstance that residual air is warm, that it is saturated with moisture, that in amount it is five times greater than the tidal air, and that it contains among its constituents oxygen, nitrogen, carbon dioxide, argon and organic matter. Attention is also directed to the fact that whenever residual air is kept chambered in the presence of warmth and moisture, it invariably undergoes change and develops a soluble poison that is capable, when present in the blood, of exerting a disturbing effect upon hair growth. That the poisonous substance circulating in the blood should limit its destructive action to the hair on the top of the head, is explained by the statement that the roots of the hair in this region, by reason of lying over the hard, glistening and practically bloodless occipito-frontal aponeurosis, are deprived of the nourishment that the other portions of the hair region obtain.

The conclusion of the author from his exhaustive studies and animal experiments are as follows: That the evidence sumbitted in the support of the theory that absence of upper chest breathing is the fundamental cause of common baldness, cannot yet be said to be complete. Its real value has not been demonstrated to be that of its face value. Before its real and face values can be said to correspond, the evidence must be vouched for by many times more than one person. The writer has isolated the specific poison obtained from the upper chest-wall, and has called it trichotoxin.

The Present State of the Treatment of Lupus Vulgaris.—Willmott (*Brit. Jour. of Dermat.*, Feb., 1907).—For the purpose of forming a comparative estimate of the values of the various methods of treatment of lupus, it is convenient to classify them, and it seems to the writer that the following classification is the most convenient: (1) the application of caustics and scarification; (2) scraping, with or without the application of caustics; (3) excision; (4) actinic treatment; (5) opsonic treatment. An important point in estimating the value of all the forms of treatment of lupus is the fact that, although the disease may be symptomatically apparently cured, slight injury will often cause the reawakening of it. This is true of tuberculosis of any portion of the body. Spores may have been left behind, or a small tuberculous mass may have been encapsulated, and thus renewal of the disease may occur, even after the lupus has been apparently cured.

The most thorough, and probably the method giving the best results, is the complete and wide excision of the involved area. This can

easily be done when the disease is not located upon the face, but in this region it is not often practicable. The Finsen method is probably the best where the disease occurs upon the face, as in this region thorough scraping and excision cannot be performed. The writer does not endorse treatment by the high-frequency current. With radium, he has had no experience. He has been unable to distinguish between the scars made by the x-ray and the Finsen method, but some have claimed that the latter is thinner and softer than the former. The x-rays he considers more rapid in action than the Finsen method, and a larger area can be treated at one time, and he believes that the recurrence is more common after the Finsen method than after the x-rays. There is, however, more danger with the x-ray than with the Finsen method. The value of the injection of tuberculin T. R., guarded by the estimation of the opsonic index, is now acknowledged, and this method of treatment is especially indicated in cases where the tendency to recurrence is great and the area large. While the writer recognizes fully its value, he thinks the cases suitable for it are limited, and even when it seems to be the best method, the x-rays form a useful adjunct.

To sum up, for the non-exposed parts of the body, complete excision is far the best method, though in a few cases, scraping followed by an efficient caustic will suffice. For the face and neck, the x-rays and the Finsen light are the most convenient and effective methods of treatment. The opsonic treatment is especially useful in cases where the tendency to recurrence is great, or the predisposition to tubercle is intense.

Pemphigus Vegetans: Report of a Case with a Review of the Subject.—Winfield (*Jour. of Cutan. Dis.* Feb., 1907).—In preparing this paper, the writer has had access to the whole literature of the subject, with the exception of five or six reports. He has stated and carefully analyzed the subject back to 1876, and he thinks that the reporters in many instances have been in error in the classification of their cases. He has found fifty-eight undoubted cases. A brief analysis of these may be reported as follows:

The ages were given in forty-five out of fifty-seven, 24 years being the youngest, 67 the oldest. Six patients were between 20 and 30 years of age, sixteen between 30 and 40, sixteen between 40 and 50, six between 50 and 60, and five between 60 and 70, demonstrating the fact that the disease occurs more frequently between the ages of 30 and 50, or, more correctly, between the 35th and 45th years. Females are more subject to the disease than males. The throat, mouth and nose were the parts first affected in thirty-six cases; the genitals, inguinal region and lower abdomen in ten; nails in six; axillae in four; face in three, and urethra in one. From the study of the literature, the author thinks it is safe to conclude, first, that some of the reported cases are not true examples of pemphigus vegetans; second, that pemphigus vegetans is a distinct disease, and not related etiologically to the diseases commonly known as pemphigus; third, that pemphigns vegetans is an infectious disease, running a definite course; fourth, that the producing organism is not yet determined; fifth, that this organism gains entrance into the body through the mucous orifices and

abrasions; sixth, that pathological changes in the kidney, as evidenced by urine analysis and pathological findings, are not etiologically significant, but secondary.

The Presence of Spirochete in the Nerves of the Prepuce in the Course of Syphilitic Chancre.—Ehrmann (*Annal. de Derm. et de Syphil.*, Jan., 1907).—A number of observers have found spirochæte in the interstices of connective tissue and of the blood-vessels. Ehrmann was the first to have seen them in the lymphatic canals. He has searched with a great deal of work a number of times to find them in the ramifications of the nerves of the skin and subcutaneous tissues, and has succeeded in two cases of chancre of the prepuce. They lie solely in the connective tissue of the nerve and in the little lymphatic space about the nerve. It is very probable that the spirochæte thus gaining access to the tissues of the nerve, prepares the way for the later manifestations of the so-called parasyphiles, which would thus explain the occurrence of tabes with syphilis.

MEDICAL LAW AND MEDICAL JURISPRUDENCE.

IN CHARGE OF

IRVIN V. BARTH, LL. B.

Scientific Books as Evidence.—State vs. Wilhite, (*Supreme Court of Iowa*, Nov. 4, 1906,) 109 N. W. 730.—In a prosecution for practicing medicine without a license, it became material to ascertain the definition of certain medical terms. A standard medical dictionary was offered in evidence. Upon this point the Court said: "Dr. Kime testified that 'Dunglison's Medical Dictionary, Revised Edition,' is accepted by the medical profession as authority in the definition of words, and thereupon the definitions of 'anatomy,' 'neurology,' 'ophthalmology,' 'pathology,' and 'physiology' contained therein were introduced in evidence over defendant's objection. Even though the Court might have taken judicial notice of the meaning of these words, it was not error to receive a standard medical dictionary in evidence, as an aid to the memory and understanding of the Court." Thereupon, commenting upon certain cases as not being in point, the Court, in referring to these, further said: "They hold that medical works, treating of the symptoms and cure of disease are not admissible, not that standard authorities may not be received as proof of the meaning of medical terms."

Note.—The cases thus differentiated by the Court in the principal case suggest a mooted question as to whether or not standard authorities, textbooks on medicine and surgery, are themselves admissible as independent evidence to be read to the jury. There can be no doubt that the weight of authority is opposed to their admissibility as suggested by the Court in the principal case. It has even been held by respectable authority that a witness may not read from his own works to support his testimony. And while a witness may not testify as to statements made in medical books,

he may corroborate his testimony by evidence that his position is sustained by writers and authorities on the subject. The expert may refresh his knowledge by referring to standard works, but the evidence must be his own, independent of those works. He is not to be confined to opinions derived from his own observation and experience—he may even refer to cases on record, without them, to support his opinion.

A reason for excluding standard authorities as evidence in themselves, suggested by a California court, is that medicine is not to be considered as an exact science, but rather as an inductive science based on data subject to change from time to time. On the other hand, the few cases which hold such evidence admissible declare that the opinion of an author as to the contents of his works is better evidence than the mere statemnt of an opinion by a witness testifying to his recollection of them from former reading.

This last view scarcely seems sound when we consider that the living witness may testify not only from what he has gleaned from study, but as well from observation and experience. Furthermore, just as he may corroborate his own testimony by relying upon standard authorities so, too, is he a subject for cross-examination, so that in the ultimate his knowledge may be thoroughly tested.

And it may be added here that upon cross-examination the right to read extracts from standard treatises is greatly increased. In dealing with the expert himself, he may be asked upon his cross-examination as to questions framed by the use of quotations from standard treatises, and he may be asked as to the relative weight of different authorities, or what is the position of authorities on the particular subject in hand. This, it has been said, is to test the expert's accuracy, his learning and the weight to be given to his testimony, or to make the question clearly intelligible to the witness." But the extracts should be limited to the purpose of testing the competency of the expert as a witness and the value of his opinion.

Absence of Consent to Operation.—Pratt vs. Davis (*Supreme Court of Illinois*, Dec. 22, 1906), 79 N. E. 562.—Action for trespass on the person in the sum of $3,000.00. It was admitted by defendant that he did not have the consent of the wife to the operation, for performing which suit was brought, but contended that the wife was of unsound mind and that he secured the husband's consent upon the following state of facts: The husband placed his wife in a sanitarium for treatment. The defendant, who was the physician in charge, told him that a proposed operation on her would be a trifling one. The husband was willing that the defendant should do anything he thought necessary, but he requested that he should do as little as possible. The defendant told the husband that two operations might be necessary. Following the conversation the defendant performed an operation, and the wife left the sanitarium. She was subsequently returned and defendant performed a second operation. The Court held that the authority given by the husband to the defendant to perform an operation was exhausted when the first operation was performed, and the second operation was performed without consent.

The Court, in the course of its opinion, made the following observation in regard to the surgeon's rights and duties as to securing consent generally: "Where the patient desires or consents that an operation be performed, and unexpected conditions develop or are discovered in the course of the operation, it is the duty of the surgeon in dealing with these conditions to act on his own discretion, making the highest use of his skill and ability to meet the exigencies which confront him, and in the nature of things he must frequently do this without consultation or conference with any one, except, perhaps, other members of his profession who are assisting him. Emergencies arise, and when a surgeon is called it is sometimes found that some action must be taken immediately for the preservation of the life or health of the patient, where it is impracticable to obtain the consent of the ailing or injured one, or of any one authorized to speak for him. In such event the surgeon may lawfully, and it is his duty, to perform such operation as good surgery demands, without such consent. The case before us, however, does not fall within either of these two classes."

Note: The case is interesting when considered in connection with the matter discussed in Volume 13, Number 9, September, 1906, at pages 764-5 of this journal.

SOCIETY PROCEEDINGS.

ST. LOUIS SURGICAL CLUB.

Meeting of December 12, 1906.

RENAL CALCULUS.

Dr. W. M. Robertson read a paper with this title for which see page 443.

DISCUSSION.

Dr. Reder had operated on four cases on the strength of an excellent clinical picture such as we would expect in a patient suffering from renal calculus, but only in one case had he found a stone. The symptoms in the other three cases, however, disappeared and the patients made a good recovery. In these cases a partial decapsulation was done to relieve the intensely congested condition of the kidney. He agreed with the statement made recntly by a surgeon that he would not operate on a patient giving a clinical picture of kidney stone unless it could be verified by a skiagraph. He stated that on several occasions a severe renal colic was relieved with a large hypodermic injection of morphine, or chloroform by inhalation, with excellent results.

Dr. Elbrecht asked Dr. Clopton to enlighten him on the subject of the skiagraph as a diagnostic agent, as this was, perhaps, the most difficult field in the skiagraphic work.

Dr. Clopton said he had failed only once in getting the picture of a stone shown by other methods to be present. That was one of those soft stones that blocked the ureter, and was afterwards passed. He had taken about seventy-five pictures of cases supposed to have renal calculi. In almost all he had been able to get a definite shadow of the transverse processes, and to show the outlines, and sometimes an outline of the kidney. If these shadows are shown, and there is no shadow of stone on the plate a negative diagnosis is pretty safe. It is not possible in every case to have your tube regulated just right. It may be too high and wipe out your shadows, or too low and not penetrate enough; consequently you sometimes take two or three pictures before getting one that is satisfactory. Those who are skillful in technic can, in all hard stones, get a shadow if they try long enough, but a great many stumbling blocks may be encountered. A very large, fleshy person with a great deal of fat will raise the area of the kidney so far from the plate that the light, no matter how well regulated, will cast an indistinct picture of a calculus. A small stone six inches from the plate, with your light eighteen, twenty-two or twenty-six inches away, will sometimes appear to be half an inch to an inch broad.

Dr. Deutsch mentioned a case seen with Dr. Robertson, in which the cystoscope could not be used. Operation disclosed a large mulberry calculus in the pelvis of the kidney. The question of drainage or no drainage was discussed, but finally the entire wound was sewed up and the patient made a good recovery.

Dr. John Young Brown was glad to hear Dr. Robinson sound a note of warning relative to the use of the cystoscope. In selected cases the cystoscope is a great advantage, but it is not without danger. He said gratifying advances have been made in skiagraphic diagnosis of these conditions, and he had verified x-ray findings on many occasions. He was confident that the essayist voiced the

sentiment of the large majority of surgeons concerning the use of the cystoscope. The instrument is one of great value, but it is right that we warn against its use, except in selected cases.

Dr. Kirchner said the work at the hospital had caused him to realize more than ever the importance of hysteria and certain symptoms which neurasthenics present. It had happened more than once that patients presented the clinical picture of stone in the kidney or ureter, whereas the condition was hysterical. In all these cases careful urinary examination is of greatest importance.

Dr. Elbrecht described a case which demonstrated the need of more symptoms, and in which the x-ray might have been a great aid. He shared the views of the essayist that blood in the urine is one of the most constant and reliable symptoms for diagnosis.

Dr. Clopton exhibited a radiograph picturing a condition which produced no symptoms, or symptoms so slight and indefinite that a correct diagnosis could not be made. The radiograph showed a number of stones in the kidney. He mentioned another obscure case with a fatal issue, the patient being too weak to bear an operation. In the kidney specimen exhibited the ureter was seen blocked by a single small stone.

Dr. Robertson, in closing, emphasized the importance of careful examination and the lack of appreciation shown by some men in the application of the x-ray and of the cystoscope. He said he had been asked to catheterize ureters, when the only indication for doing so was cloudy urine, no effort having been made to determine even the character of the cloudiness. The use of the cystoscope in cases of this kind brings both the instrument and the operator into bad repute. To use it intelligently, and to properly interpret his findings, the operator should be given the opportunity of examining the patient and studying the mixed urine. He should be consulted as to the advisability of its use, and given every opportunity to interpret the significance of his findings. He protested strongly against mechanical diagnosis. As soon as we find something wrong with the urine, we should not at once resort to the cystocope and the x-ray, but should proceed along the old orthodox way, and reserve these newer methods of diagnosis as a last resort. They have in no way replaced the older methods of examination, but should be considered as additional aids in arriving at a correct diagnosis. If used together, and the findings intelligently interpreted, we will find more renal calculi than we ever thought existed.

BOOK REVIEWS.

Les Aliments Usuels, Composition, Preparation; Indications dans les Regimes. Par Alfred Martinet. 8vo., pp. viii+328. Paris, Masson & Cie., 1907.

This volume is a companion to the author's Les Medicaments Usuels. He discusses each food-stuff from the point of view of the kitchen, the bed-side and the laboratory. The most useful feature of the book, perhaps, lies in the detailed description of the methods of preparing palatable dishes to meet all the various indications. It is a cook book as well as one on dietetics and well deserves translation.

Diagnose und Therapie der Anaemien. Von Dr. Joseph Arneth. 8vo., pp. 208. Wuerzburg. A. Stuber's Verlag (Curt Kabitzzsch), 1907.

This is one of the most interesting treatises on hematology that has recently appeared. The various anemias, including the leucemias, are discussed with much originality from the diagnostic as well as from the therapeutic point of view. The author's favorite doctrine is that the stage of maturity of a polymorphonuclear leucocyte may be estimated from the complexity of its nucleus. The greater the proportion of granulated cells with simple nuclei (i. e., with 1, 2 or 3 branches), the greater the energy or even haste with which the hemo-poetic tissues are working. While the writer can hardly be said to have established this theory, he certainly renders it plausible and draws many interesting conclusions regarding the significance of the blood-picture in disease. The colored illustrations are unusually fine and the treatise will well repay perusal.

Beitraege zut Klinik der Tuberculose, Herausgegeben von Dr. Ludolph Brauer. Bd. vi. Wuerzburg. A. Stuber's Verlag (Curt Kabitzsch), 1906.

This periodical should be in the hands of every one who takes especial interest in questions involving tuberculosis, particularly from the point of view of the laboratory. Half of the 16 articles that appeared last year were devoted to the injection of tuberculin and allied substances and a number of the others were concerned with animal experiment. A noticeable feature is the absence of any discussion of the theory of opsonins.

Medical Diagnosis. A Manual for Students and Practitioners. By Charles Lyman Greene, M. D., 12mo. pp. 683. Philadelphia; P. Blakiston's Son & Co., 1907.

A useful little book, profusely illustrated and comprising in a form almost suited to the pocket, an adequate presentation of the most important methods of laboratory and physical diagnosis. An elaborate index adds greatly to the value of the compilation.

Materia Medica for Nurses. By Emily M. A. Stoney, Superintendent of the Training School for Nurses at the Carney Hospital, South Boston, Mass. Beautiful 12mo., of 300 pages. Third Edition. Thoroughly Revised. Philadelphia and London. W. B. Saunders Company, 1906. Cloth, $1.50 net.

This new edition is especially commendable on account of its clear and concise practical indications for the uses of drugs. The special chapter devoted to poison emergencies is worthy of consideration by the practitioner as well as by nurses for whom the edition was especially written. Although small and concise in form, it covers the entire field of Materia Medica and Therapy including new measures and agents such as the serums and vaccines so far as they are established at the present time.

A TREATISE ON SURGERY. In two volumes. By George R. Fowler, M. D., Examiner in Surgery, Board of Medical Examiners of the Regents of the University of the State of New York; Emeritus Professor of Surgery in the New York Polyclinic, etc. Two imperial octavos of 725 pages each, with 888 text illustrations and four colored plates, all original. Philadelphia and London: W. B. Saunders Company. 1906. Per set: Cloth $15.00 net; half morocco, $17.00 net.

The second volume of this large work lies before us. It is, as far as the physical appearance of a book can be, one of the best examples of American art in this line. This volume alone contains 714 pages, and the illustrations in it number about 500. Many of these latter deserve special mention for the excellence with which they are conceived. This volume deals with regional surgery. The following subject matter being treated:

The vertebrae and their contents. The abdomen and pelvis. The female generative organs, and upper and lower extremities. The general scope of the work is comprehensive and evidently intended to meet the requirements of a student. It differs, however, in one respect, from the usual work on surgery in that it contains many of the special methods devised by its resourceful author. The chapter on appendicitis is especially interesting, in view of the recent death of Dr. Fowler, who was a victim of this disease. He was a distinguished surgeon, a most charming gentleman, and no death in our ranks within recent years is to be more lamented.

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